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THIS (THE EIGHTY-FIFTH) VOLUME OF "THE GARDEN"

IS, BY PERMISSION, DEDICATED TO

FRANK GOMER WATERER

IF one were asked to name the British nurseryman best known personally to readers of THE GARDEN, let us say, one would unhesitatingly reply "Mr. Gomer Waterer." North, south or west, Mr. Waterer is a *persona grata*, and he is, naturally, even better known in the Home Counties than elsewhere. His popularity, since one must use a rather overdone and ambiguous word, rests probably on his wide experience and manifold interests, combined with a native charm of manner, enhanced, in all probability, by his sojournings abroad. His wide experience of country pursuits imparts charm to his private conversation, while he possesses in large degree that capacity for listening well, which is one of the rarest and most valuable of social gifts.

Destined for the Army and entered at Wellington College, Mr. Waterer had to give up all idea of a military career owing to trouble with his sight. After the better part of a year spent in Germany he was initiated into nursery work by the famous firm of Moser at Versailles. Mr. Waterer did not enter the firm of John Waterer and Sons, as it then was, until after the death of his father, Mr. John Waterer, in 1893.

Prior to this, Mr. Waterer had established an American connexion which had, when war broke out, reached very considerable dimensions. In the course of his experiences across the "Pond" Mr. Waterer came in touch with Mr. James B. Duke of New Jersey, whose garden planning was on a stupendous scale. His garden extended to 1,600 acres, of which 500 acres represented mown lawn. It was for him that Mr. Waterer bought the 37,000 Blue Spruce which earned for him in Holland the *sobriquet* of "Blue Spruce Waterer." Other remarkable items which Mr. Waterer procured for this gigantic garden were 15,000 pink-flowered Chestnuts and an equal number of Yucca filamentosa. Some day, perhaps, we may induce Mr. Waterer to recount some of his American adventures and experiences for the benefit of our readers. They would, doubtless, make interesting reading. Mr. Waterer crossed the Atlantic six times during the progress of hostilities, and twice the vessel in which he crossed was torpedoed on its return.

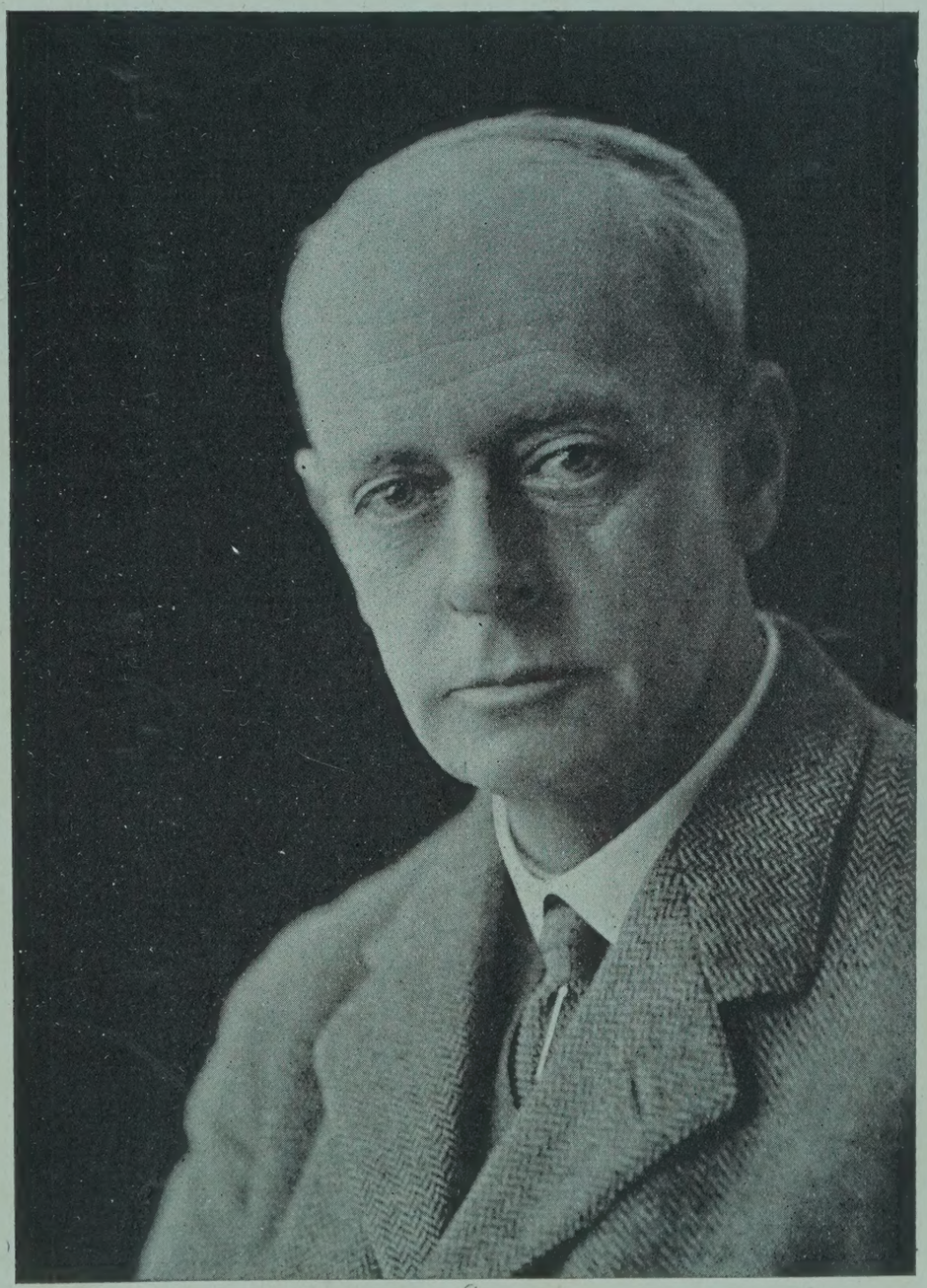
It has always been Mr. Waterer's policy, as, indeed, it was the policy before he took the helm, to exhibit largely and well. For many years the Bagshot firm held a special Show of Rhododendrons in London each year, first at the Royal Botanic Gardens, afterwards at Cadogan Gardens, and then, when their lease expired, at the "Botanics" again. It was during this last period that Mr. Gomer Waterer was responsible for the arrangements. It was his idea to issue the special cards of invitation which made the Show so valuable alike to the Rhododendron-loving public and the firm. These exhibitions were stayed only by the Great War. Mr. Waterer was responsible for hiring, for a special display, the Royal Horticultural Society's Hall, Vincent Square, for the two seasons immediately previous to the outbreak of war. The 3,000 plants employed were brought up by a special train of twenty-five trucks, and seventy two-horse vans were employed in transferring them from Nine Elms Goods Yard to the Hall. Some of the plants were of large size, and it was computed that upwards of 100,000 trusses of bloom were on show. It was about this time that amalgamation with the "Wargrave Hardy Plant Farm" took place, since when the firm has been John Waterer, Sons and Crisp, Limited.

Mr. Waterer is a man of wide interests. A keen sportsman, he has every right to be proud of his exploits. He played for the Virginia Water Ice Hockey team round about '94 and '95, when the team was practically national—indeed, International matches were played in which they were successful.

Always fond of rowing, sea rowing was Mr. Waterer's special hobby, and in 1903 he broke a long-distance sea rowing record by sculling single-handed round the Isle of Wight, a distance of sixty-five miles, in twelve hours. Sailing of all kinds he has indulged in, having had experience of a big schooner yacht and also of small sailing boats. A keen fisherman and game shot, he has shot and fished in Canada, where his experiences have included moose hunting.

Of late years Mr. Waterer's leisure has been largely devoted to golf, a game which he has played for twenty years. That he has excelled in this is well known. He has played under a scratch handicap for the past ten or twelve years, and has frequently represented Sunningdale in club matches. For the last two years he has been Captain of the Camberley Heath Golf Club.

Coming back to matters horticultural, Mr. Waterer's special claim to fame rests on the work he has for many years carried out in the breeding of hybrid Rhododendrons. Pink Pearl was, of course, raised before he took charge, but to him must be given credit for, among others, Alice, Bagshot Ruby, Corona, Mrs. E. C. Stirling and, quite recently, B. W. Crisp. Other first-class hybrids of a somewhat different type are the beautiful variety named after Mr. Waterer himself, Ted Waterer, Lady Decies and Brilliant. These have all been raised at the Bagshot nursery, and it would be safe to say that in recent years Mr. Waterer's firm have sent out a larger number of really first-class hybrids than anyone else. It has always been, and still is, the aim of the famous Bagshot house to place hardiness above everything. It is remarkable, bearing that fact in mind, how beautiful many of these varieties are—quite as beautiful as some of the more tender hybrids recently sent out, which, outdoors, are only safe on our seaboards or in other specially suitable situations.



FRANK GOMER WATERER.

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THE GARDEN

No. 2563.—Vol. LXXXV. [JANUARY 1, 1921.

RESTORING THE GARDEN WITH ANNUALS

HAPPILY this New Year provides a definite turning point in the affairs of the flower garden. There are not wanting signs of a great restoration, and it is safe to prophesy that this year will be specially noted for the revival in the cultivation of annuals. It becomes the duty of every home owner to make the garden as pleasant as it can well be made, and there is nothing to equal annual flowers to restore the garden to its full glory in the shortest space of time. Happy is the man who can point his friends to a lovely garden and say, "I have done it." The garden that somebody else has made for us is never so appreciated as the one into which we have put our own ideas and worked with our own hands.

Annuals for Everybody's Garden. — Certain annuals are indispensable. Foremost among them is the Shirley Poppy, appropriately chosen as the subject of the front cover of this issue. The flowers from which the coloured illustration was prepared were grown from the selected strain sent out by Messrs. Sutton and Sons. Then there are Asters, Stocks, Clarkias, Cornflowers, Coreopsis, Eschscholzias (better known as Californian Poppies), Gypsophilas and Phlox Drummondii, to mention only a few, for there are many others, including Sweet Peas, the only annual to have a National Society all to itself. The reader who is seeking to grow the most up-to-date Sweet Peas should consult the selection on page 6. There are well known flowers not strictly annuals that might well be included here, viz., Antirrhinums, or Snapdragons, Aquilegias and Wallflowers, all of which are best grown from seed. Certain annuals, once they are introduced into a garden, never fail to put in an appearance each year. We have in mind Pot Marigolds, now so very popular in Scottish gardens, Candytuft and the ubiquitous Nasturtiums. One of the charms of flower gardening is that it grows upon one, but the novice must be cautioned about the over-anxiety to get the seeds into the ground early. The severe weather, coupled with the snowstorm which raged over the British Isles quite recently, serves to remind one very forcibly of the evils of early sowing in the open. Annuals are often sown too soon in the open, and the result is premature blooming and a poor display.

IN A GARDEN OF ANNUALS.

Sowing under Glass. — Whatever the weather may be does not interfere with the sowing of seeds under glass. They can be sown in pots, pans or boxes; a very convenient size box is 14 inches long, 9 inches wide and 3 inches deep. The box must be well drained with crocks and rough leaf-soil. A suitable compost for sowing consists of two parts of loamy soil and one of leaf-mould, with one part of coarse sand. Pass this through a fine mesh sieve, leaving the rough stuff remaining in the sieve for putting in the bottom of the box for drainage. Fill the box lightly with soil, then press down moderately firm with a flat board. With many seeds it is a great advantage to sow under glass, afterwards pricking off the seedlings and transplanting outside. Antirrhinums are best grown this way, the simplest course being to treat them as half-hardy annuals, sowing the seed from January to March, pricking off the seedlings into pans or boxes and then planting out after the Wallflowers and other spring bedders have been removed. By this means the Snapdragon will flower freely from the beginning of July till the end of September. The tall varieties are very beautiful for mixed borders, but for general bedding purposes the intermediate section is the most striking, and at the same time the flowers are of great value for cutting. Quite a number of beautiful Snapdragons have been introduced during recent years, a few of the best being Sunset, Melrose, Crimson King, Cottage Maid and Moonlight. Larkspurs are among the most popular of all blue flowers. They are perfectly hardy, and the fine spikes of bloom are most graceful for room decoration, while very delightful effects can be obtained by putting these annuals in beds by themselves. H. C.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

RUDBECKIA AUTUMN SUN?

ONE is almost ashamed to show any acquaintance with German nowadays, but surely Rudbeckia Herbstone, mentioned in THE GARDEN, December 18, 1920, on page 622, should be Herbstsonne (Autumn Sun).—CHARLES E. PEARSON.

CLIANTHUS PUNICEUS.

YOU may be interested to see the enclosed blossoms of Clianthus puniceus. The shrub is growing against a south wall of my house, but so far this winter it has had no protection. It flowered well in the spring, but I have not known it before to have blossoms again in the winter. There have been about eight or ten.—JOHN E. WILLIAMS, *Hillside, Llandaff, Cardiff.*

LIFTING BULBS OF LILIUM HENRYI.

WE have been lifting the bulbs of Lilium Henryi here after leaving them in the same place for three years, and I have found a large number of bulbs weighing 2lb. 3ozs. each. I should be very glad to hear from some of your readers whether this is an ordinary or an extraordinary size. During their sojourn in this particular bed the stems—crowded with their wonderful golden heads of flower—ranged from 6 feet to 9 feet in height.—E. BYNG OF VIMY, *Thorpe-le-Soken, Essex.*

STERNBERGIA LUTEA.

IN THE GARDEN, December 18, 1920, page 624, it is prescribed that "no rock garden should be without a group of this beautiful plant." It may save some amateurs from disappointment if I enter a *caveat*. Unhappily, it requires more sun than we can give it in the north-west to induce it to flower. Often has my cupidity been fired by its freedom and brilliancy, both in England and in the vineyards of the Médoc; but repeated attempts to get it to behave nicely here have all been brought to naught, although Zephyranthes candida is quite happy with us.—HERBERT MAXWELL, *Monreith.*

BORONIA.

"A COSTER" in THE GARDEN might extend the interest of his already very interesting note by giving more range to his vocabulary. How are Boronias selling and other plants out of the usual market run? Hard-wooded greenhouse plants have gone up in price beyond anything popular, yet some, such as Heaths and Azaleas, will keep their place at almost any figure. Boronia, too, has a place of its own; no plant surpasses it in scenting a house, not merely a room. An Australian lady has just told me the pink Boronia is only scrub where she comes from, and the brown one only found in Western Australia. By brown she means no doubt megastigma, the most powerfully scented. Some dictionaries describe its flowers as purple and lemon, but they are so tiny that the purple has a brown aspect. By the other or scrub Boronias this lady probably means rosea, elatior or serrulata—Australians are rather weak on botany. All were formerly much grown for the London florist trade. Perhaps "A. Coster" can tell if his barrow is ever graced with these examples of Australian flora.—HURSTCOT.

THE CARNATION.

I AM utterly at variance with the opinion of P. S. Hayward in his article on "The Carnation" (December 4, 1920, page 596) that the old Carnations outclass the newer varieties. I have never seen an Harlowarden to equal British Triumph yet in form, colour, habit of growth or fragrance. I will admit it has its good points—the calyx does not split and it has a good stiff stem—but compared with Triumph it is absolutely out of the picture. The blooms of Harlowarden here average 2½ inches across, while Triumph averages 3½ inches, and we often get them 4 inches, which is all that can be desired. Another good variety of recent introduction is Mrs. Edward Douty, but I do not remember much about it, only having seen it at Wisley during the trial. Then, again, there is Mikado. It is very nice certainly, but its cropping value is nil. To every bloom of Mikado you will get six of Cinderella. For abundance of bloom (during the winter at any rate) the latter stands unequalled. There is one fault with it. It is rather chameleon-like as regards its colour. Here we have the usual mauve and pink, another is a combination of the two colours and looks perfectly hideous, and a third a lovely scarlet. Circe is also good. Mr. Hayward asks "where is there a rose-coloured Carnation to outclass Mrs. C. W. Ward and Mrs. Lawson?" I suggest, if he has not already done so, he should procure Destiny, which will answer the question he asks.—F. A. DENCH, *Dunorlan Gardens, Tunbridge Wells.*

PURPLE VERSUS COPPER BEECH.

I TRUST that my friend Professor Somerville in his note on the Copper Beech (December 18, 1920, page 618) had in view the Purple Beech, which is worthy of all praise, and not the Copper Beech, which is so inferior to it. In spring it is not possible to distinguish between the two varieties, the young leaves of each being of a delicate roseate hue, like those of Cercidiphyllum japonicum at a similar stage of growth. But the foliage of the Copper Beech never assumes at midsummer the deep, rich maroon of the Purple variety, but remains of a hot, rusty metallic hue, which seems to me the reverse of attractive. No doubt both varieties, as well as intermediate forms, occur in plants raised from the seed of a single tree, and that a Purple one. They are well described by Messrs. Elwes and Henry in their great work on British and Irish trees (Vol. I, pages 7 and 8), wherein is also mentioned the grim legend of their origin on the Irchel mountain in Zurichgan. In Scheuzer's work on Swiss natural history, published in 1709, it is stated that the local tradition affirms that three Beeches with red leaves sprang up on the spot where five brothers fought and killed each other. Of the Purple Beeches which I have seen, and enjoyed seeing, two remain in memory as richest and finest. One stands at the west end of Lord Jersey's house of Osterley, the other at a bend of the river Test just below Lord Palmerston's old home (now Colonel Wilfrid Ashley's) of Broadlands. Tennyson, his sense of beauty in Nature notwithstanding, seems not to have shared my love for the Purple Beech. It is mentioned but once in his poems with implied dispraise.

"I have, I think—Heaven knows—as much within;
Have, or should have, but for a thought or two,
That, like a Purple Beech among the greens,
Looks out of place."

—(Edwin Morris, or the Lake.)

Perhaps the poet had a Copper Beech in mind.—HERBERT MAXWELL, *Monreith.*

POLYGALA CHAMÆBUXUS.

IT was one of the late Mr. Farrer's regrets that he could not grow this pretty Milkwort. "I swear I love her whole-heartedly, the little creeping Box that one finds on the lower Alps, with butterfly shaped flowers of cream and yellow and white and orange," but none of the family would do in his garden. Here, on the other hand, several forms of P. Chamæbuxus will prosper anywhere, in sun or thin woodland shade, revelling in our light, lime-free, shaley loam and flowering in spring and autumn with unfailing regularity. The variety purpurea, with its magenta-purple wings and yellow centre, is the prettiest of its species, and it appears to be the most robust, especially the form with rounder, thicker leaves than that which more nearly resembles the type. P. Chamæbuxus enjoys leaf-mould, and an annual top-dressing of that material and sandy loam in equal parts improves the colour and size of both foliage and flowers.—N. WALES.

ARE NUTS FRUIT?

AT the recent autumn exhibition of the Bournemouth Horticultural Society prizes were offered in Class 9 (open division) for a collection of fruit, six distinct varieties. There were two entries. One contained excellent examples of Black and White Grapes, Apples, Pears, Melon and a dish of Cob Nuts, for the inclusion of which the exhibitor was disqualified, the first prize being awarded to a much inferior exhibit. In the Royal Horticultural Society's code of rules for judging I notice that in stating the number of fruits to a dish 1lb. of Nuts is specified. There being no rule in the local society's schedule prohibiting Nuts, were the judges right in disqualifying? I have no personal interest in the matter, but being frequently called on to judge at local exhibitions and, therefore, rather a keen critic of the work of others, it would be interesting to learn through the columns of THE GARDEN views of some of your readers on the point question.—C. RIPPARD, *Ashton Court Gardens, Bournemouth.*

[In all instances where the wording of the schedule may come into question a copy of the schedule ought to be sent. If our correspondent is correct in saying that there was "no rule in the local society's schedule prohibiting Nuts," the judges were undeniably in error. Nuts are fruit in every sense of the word, and in the absence of a governing clause excluding them—which it is, of course, in the power of any society to create—to disqualify an exhibit of fruits simply because it contained Nuts was contrary to the wording of the schedule. The disqualified exhibitor should have entered a formal protest, which proper investigation could not have done other than uphold.—ED.]

A GARDEN OF BERRIES.

THE suggestion of A. L. Darrah (page 598) is an excellent one and would furnish food for thought all the days of the year, if anything like adequate space were available to display only a few of the species of each genus he has mentioned. This would imply the proper arrangement of each to give it adequate space, sun and shade, as each requires it; cultivation, and judicious pruning if planted in limited space. Standards of some would eke out the space as only the head would need to be exposed to light. Economy would urge a commencement with Gooseberries, Currants, Raspberries, Strawberries and Loganberries. Cotoneaster microphylla and C. Simonsii take kindly to walls, but C. horizontalis is most at home when planted as shown on page 599. C. thymifolia makes a little bush, but C. frigida grows 10 feet to 20 feet high or more, and carries its berries well through the winter if the place is not too much frequented by blackbirds and thrushes. The space at command

in a particular case may urge consideration of the dwarfer species, unless fancy determines that certain shrubs must be included. The best fruiting Skimmias in my experience are S. japonica (oblata), S. j. Foremani and S. Fortunei, but the latter is considered somewhat tender. S. j. fragrantissima is only a male form and does not fruit. Male and female Aucubas, Hollies and Hippophæ must be planted, otherwise no berries will result. Of the evergreen Thorns, Pyracantha coccinea Lalandei, P. Gibbsii, P. crenulata Rogersiana, and P. c. R. flava are very fruitful and handsome. Where Viburnum Lantana takes kindly to the soil and fruits well, the changes of colour in the fruit are a revelation. At first it is pale green, then becomes edged with pink or red, changing wholly to red and finally black. If I were limited to one fruiting Crab of moderate dimensions it would be John Downie. Gaultheria Shallon fruits profusely at 12 inches to 18 inches high. The various coloured fruits of the Pernettyas should also find a place.—HORTULANUS.

POT MARIGOLDS.

I WAS much interested in "Anne Amateur's" reference to this old-fashioned flower and the complimentary way in which she spoke of my firm's strain of it. My daughter, who returned recently from a visit to California, tells me Calendula is very popular there for house and table decorations. It is displayed lavishly in all big florist's shops. I asked if the flowers represented a good strain and she said "Yes," they are quite as fine and double as big as yours at home. I was comforted by the reflection that a few years ago we sent a 6lb. of our best seed for stock to an American house!

"Most can raise the flower now,
For all have got the seed."

I enclose a good photograph of Calendula officinalis fl. pl., otherwise Scotch or Pot Marigold.—W. CUTHBERTSON.

MICHAELMAS DAISIES.

IN his, to me, most interesting article on Michaelmas Daisies which appeared in THE GARDEN for December 11, Mr. Jacob makes one's mouth water at the goodly company of this magnificent autumn flower, which he so charmingly portrays. Evidently they are a goodly heritage and worthy of inclusion in all gardens where thought and consideration are given to flowers that come in all their beauty in the closing weeks of the year. Raised in a garden which has such a wide reputation as Aldenham, one can understand what pleasure the opening of new Michaelmas Daisies would excite. I share with Mr. Jacob his preference for single varieties. To my mind the simplicity of the singles undoubtedly constitutes one of their greatest charms. Although one would like to find out where some of the gems the writer has brought into the limelight for our delectation can be procured, it must not be forgotten that in some of the older sorts we have flowers of wondrous beauty that, unlike some subjects, call for no special culture to come in prodigal perfection in the autumn days. Such are varieties like Thomas Hemming (rosy lilac), Chastity (pure white), Andromeda (rosy mauve), Præcox (deep purple), Fanny (lilac) and Rosalind (rose with brown disc). It is always a puzzle to me why, comparatively speaking, so few people give Michaelmas Daisies much consideration, and I can only surmise that with many they are wholly in the dark concerning present-day sorts; and the confession of an old friend of mine who was shown a collection last October confirms this, as he said, "I had no idea that Michaelmas Daisies were so varied and beautiful; I must certainly have some." For my own part I look upon them as indispensable in a border of hardy plants, as they give us lavishly of their beauty at a time of the year when every bit of colour is most welcome, and to a town gardener they are a veritable asset.—W. LINDERS LEA.

LAURUSTINUS.

THE Laurustinus appears to be quite hardy in districts much nearer London than that mentioned in a recent issue of THE GARDEN.

SCOTCH OR POT MARIGOLDS.

In several south-western suburbs isolated bushes of this lovely evergreen are to be met with, and at Thornton Heath in a small plantation facing south two handsome bushes have been flowering beautifully for some time past. We need to plant more of this evergreen and other flowering and berried shrubs in these newer suburbs, so much overplanted with close-shaven Privet and Euonymous. The Mock Orange, Pyrus japonica, Pyracantha, Rosa rugosa, Clematis for fronts of houses, Climbing Roses other than ramblers are occasionally seen in thriving condition, but there are very few things so beautiful as the Laurustinus at this dull season. A few cut flower-sprays are very welcome for indoor decoration. Another old climbing plant, the Winter Jasmine, is very handsome on the fronts of several small villas hereabouts.—G. A. CHAMPION, *Thornton Heath.*

FLOWERS ATTRACTIVE TO BUTTERFLIES.

IN that restful half hour which follows upon one's evening meal I was turning over some loose back numbers of THE GARDEN when my eye caught an item of news which comes as an interesting footnote to a matter touched on in the December 11 issue. The Rev. Joseph Jacob, in writing upon his trial of some of the newer Aldenham Michaelmas Daisies, made the happy discovery that they stand high in the list of flowers attractive to butterflies. This pleasing attribute in a flower is generally completely overlooked so far as butterflies are concerned, though not so as regards bees, which do have their wants catered for in some flower catalogues and no doubt in some gardens. Indeed, on reflection, is there not a much added enjoyment to a border of flowers in full sunshine when it is vocal and vibrant from the busy company of happy insects at work among the flowers? I suppose it is that a feeling of companionship comes over one, as sharing a pleasure with others. I enclose a note which appeared in your issue of October 12, 1907, on "Butterflies in a Garden," which confirms Mr. Jacob in his observations on Sedum spectabile and on the sudden appearance of the gay visitors from nowhere. But he will surely be able to list for us a more generally popular selection of garden subjects than your correspondent of 1907. Does Mr. Jacob confirm the toxic effects of Sedum nectar, and on what evidence is the assertion made as to the cause of the partial stupefaction of the insects?—SAMUEL POPE.

"**Butterflies in a Garden.**—It may interest your correspondent to learn that some years ago I tried a series of experiments on naturalising not only some of the showier butterflies but moths also. I tried obtaining eggs and transferring the resultant caterpillars to their natural food plants, and also releasing the perfect insects that had been bred in captivity. My experiments were limited to the showier British species, but all, I must confess, resulted in failure. After this, the only course open to me seemed to be to plant freely of flowers most attractive to butterflies, and in this way better results were obtained. Far and away the most attractive plant to these insects is Sedum spectabile, which does not, however, bloom till the month of August. At that time in bright weather the several showy species of the genus Atalanta may be seen hovering over the large flattened heads of pink flowers, and imbibing the nectar until they became partially stupefied. This will happen even if before the flowering of the Sedum scarcely a butterfly of this section is to be seen. A shrub nearly as attractive to the same butterflies is Itea virginica, a native of North America, which forms a compact, freely branched bush, as a rule from 3 feet to 5 feet in height. The flowers are small, whitish, and disposed in dense spikes a good deal in the way of some of the shrubby Veronicas. It needs a cool, moist peaty soil. Other subjects that may be mentioned as very attractive to the showier butterflies are single Dahlias, Scabious, Sunflowers, Marigolds and the British Ragwort H. P."

RE-MAKING LAWNS FROM SEED

By W. DALLIMORE.

MANY areas of ground that were under grass either as lawns, lawn tennis grounds and cricket grounds in pre-war days were ploughed or dug over during the lean years succeeding 1914 and cropped with Potatoes and other vegetables, and have remained as vegetable gardens until the present time. Now, however, the owners wish to restore the ground to its original purpose, and the question arises as to how this may be most easily accomplished, and that is undoubtedly by sowing seed.

The deep digging and manuring that have gone on during the last few years have all been in favour of future lawns, for deep cultivation has broken up hard subsoil and the ground has become well aerated to a considerable depth, thus improving its general fertility. Where the ground is well drained further cultivation will be unnecessary, except in such places where hard paths have been left between borders, and corners have been unworked. In such places the ground should be dug up as deeply as the rest of the ground, and if poor it should be manured. The whole area should then be well trodden, taking particular care to make the parts that have been newly dug really firm. Levelling pegs must then be inserted about 6 feet apart throughout the ground. These may be inserted by means of a spirit level or with boning rods. For an ordinary lawn boning rods are usually quite satisfactory, but for lawn tennis grounds, croquet lawns and cricket pitches it is better to use a spirit level. Care must be taken to arrange the general level so that there will be sufficient soil for the purpose on the ground, while none will need to be carted away. After the insertion of the pegs it will probably be found that several inches need to be removed from some places and holes filled elsewhere. This will mean barrow work, and for that planks or scaffold boards should be provided, for it is unwise to allow wheeling on the bare ground. During this work care must be taken not to interfere with the levelling pegs, and so that they may be easily seen it is a good plan to place a small stick 6 inches or 9 inches high to each one. After the levelling has been roughly carried out test the levels to find out whether any have been moved, then start at one end and fork the whole ground over about 3 inches or 4 inches deep, being very careful to keep the ground level during the work. When the surface of the ground is moderately dry, on a date as early as possible in March, tread it over again, test the levels, and then commence at one end with a wooden rake and rake the whole over, extracting the levelling pegs and filling up the holes firmly at the same time. During the raking as many stones as possible must be removed. After this raking seed may be sown, taking advantage of a calm, fine day. The seed must not be sown very thickly, but sufficient must be used to ensure a good crop. After sowing, rake the seed in and either leave it unrolled or pass a light roller over the surface. If wet, a roller will do more harm than good, and as a rule it is wise to leave the surface open. Steps must be taken to keep birds away until the young grass appears. Nothing is gained by sowing seed before March unless it can be sown during early autumn.

In the case of heavy ground that is not well drained it is a wise plan to lay agricultural drains down before any levelling is done, while the addition of grit or cinders to the surface soil will be attended by good results. This work should be done at once so that the ground may become settled, and advantage may be taken of fine weather in March for final preparatory work and seed sowing. Upon no account dig loose or long manure into land that is to be sown down with grass at this period, for it will continue to decay for some time and cause uneven sinkage. All such manuring ought to have been done while the land was cropped with vegetables, and if any manure is applied now let it be bone manure. In the event of soil being required to make up a deficiency, care must be taken to use only such as is reasonably clean from weed seeds. Upon no account use that from garden refuse heaps unless it can be covered by a substantial layer of good soil. If soil containing weed seeds is used it will cause a great deal of future annoyance.

Where lawns are formed upon slightly rolling ground it is a mistake to try to make them a dead level unless they are required for games. Rather let the lawns follow the natural contour of the land, taking care to smooth down any ugly little humps or fill up holes.

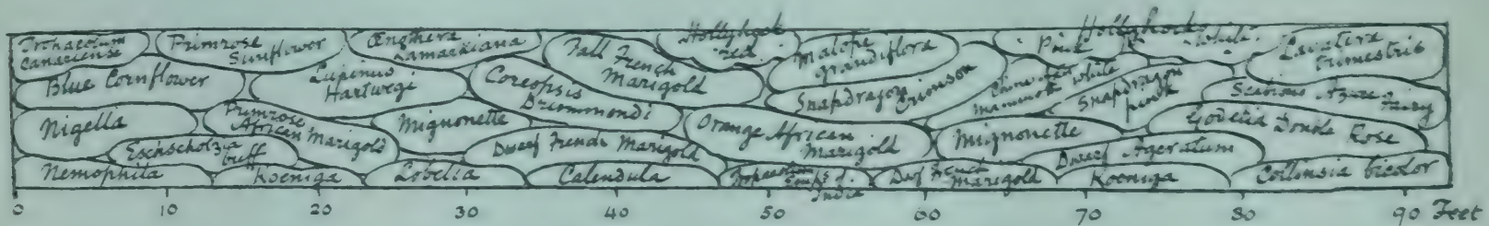
The most satisfactory Grasses for lawns are Fine-leaved Sheep's Fescue (Festuca ovina var. tenuifolia), Hard Fescue (Festuca duriuscula), Crested Dog's Tail (Cynosurus cristatus), Red Fescue (Festuca rubra) and Smooth-stalked Meadow Grass (Poa pratensis). If a very fine Grass only is wanted, the first named should be selected. The best means of obtaining seed, however, is to apply to a seedsman of repute, giving him particulars of the soil and whether heavy or light and the size of the area to be sown. He will then be able to provide the best possible mixture for the position and know what quantity of seed is required. Upon no account sow seed from a hayloft. If this is done unsuitable Grasses and many weeds will be introduced.

When the young Grass is 2 inches high take advantage of a day when the surface is dry and roll it with a light roller. This operation may be repeated at intervals, using more weight as the vigour of the Grass increases. It should be allowed to become fairly strong before it is mown, and the first mowing should be done with a scythe. Afterwards regular mowing may be carried on. By the end of summer a good turf should be formed, and after-management will be the same as for old lawns. As a rule it is not wise to play on newly sown lawns during the first year, although this will depend entirely upon the condition of the grass and the amount of play that is required. An odd game now and then would do no harm, whereas regular play would perhaps ruin the turf. During the first year it is probable that hand-weeding may be necessary on one or two occasions.

Annuals for Colour Effect

THERE is often an opportunity of having a whole border of annuals and biennials, and it is well worth while to arrange it carefully for colour, so that the whole border may be a picture of harmonious plant beauty instead of a haphazard assemblage of flowers placed without thought or any definite intention. The plan shows a border of annuals arranged for good colour, with blue and white and pale yellow at one end, passing to stronger yellow, orange and red in the middle and then on to pink and purple at the further end. It is only a slight suggestion, but is enough for an indication of what may be done in larger and possibly better ways.

We have a bit of ground that had become badly infested with Couch: a pest that cannot be entirely eradicated at one digging. It was first carefully forked over to get out as much of the grass root as possible, but some small pieces are sure to have escaped observation. We shall sow it with annuals, to await a final cleaning in the late autumn. G. J.



A BORDER OF ANNUALS ARRANGED FOR COLOUR EFFECT.

Annuals for an Unheated Greenhouse

SOME of the hardy annuals are grand subjects when grown under glass. Spring sown, they will flower during the summer and autumn, and another sowing can be made in August to raise plants which will flower during the following spring. The seedlings must never be allowed to become overcrowded in the seed-pans before being potted off singly; they must also be given a light position and abundance of fresh air on all suitable occasions. During the winter great care must be given to the application of water. Too much water will cause the young plants to "damp off" at the collar. Among the best are the Annual Chrysanthemum, both double and single varieties. Clarkias make handsome specimens 3 feet and 4 feet in height. They have a pleasing pyramidal habit of growth. Good varieties are Salmon Queen, Scarlet Queen and Vesuvius.

Dimorphotheca aurantiaca, new hybrids of this annual continue in flower for a long period, and are very effective.

Mignonette—too well known to need description. There are giant flowering varieties, especially suitable for pots.

Nemesia, very showy in scarlet, carmine, orange, white and blue.

Nicotiana (Tobacco).—The many new hybrids of Nicotiana Sanderæ may be obtained in several colours.

Schizanthus (Butterfly Flower).—These must be included in every collection. They are most beautiful for spring flowering.

Viscarias have, during recent years, become very popular, and are largely grown for Covent Garden and other markets.

Plants of Asters and Stocks are very attractive. They may be grown in the open border and dug up with a ball of soil attached to their roots when showing their flower buds and placed in clean pots.

Passing on to perennial plants for the unheated greenhouse, we have Helleborus niger (the Christmas Rose), producing its large snow white flowers from December to March. It should be included in every collection.

Sweet Violets are always welcome; they are interesting growing in pots, but demand a light position and abundance of fresh air.

Polyanthus and Primroses, including the new blue, are very charming when grown in small pans; as are many of the hardy Primulas.

Auriculas, which rank among the oldest of garden flowers, are most effective during the spring. The Alpine Auricula is likely to give more satisfaction than the show varieties, unless the latter are treated by an expert.

The Hepaticas are remarkable for the way in which they flower, and also for their very simple culture.

The (Ladies Locket) Dicentra spectabilis is also a plant of simple requirements which is very graceful.

Flowering in the autumn the beautiful blue Plumbago Larpentæ is always much admired. The combination of its coppery foliage and abundance of light blue flowers is very pretty.

ANTIRRHINUMS FROM SEED SOWN IN JANUARY.

Pans filled with Saxifragas are always delightful. Saxifragas comprise one of the largest and most varied groups of plants in cultivation. Many of the dwarf species and varieties are most suitable for growing in pots and pans, and present a charming effect in early spring. They require an open, gritty compost, and good drainage.

COLIN RUSE.

Folly Farm Gardens, Sulhamstead, near Reading.

Antirrhinums for Bedding Purposes

ALTHOUGH the homely Snapdragon is really a hardy perennial, it is often employed as an annual with excellent results. For bedding purposes few annuals give such a gorgeous display, while for brilliancy the Snapdragons are in the front rank. Furthermore, they are of easy culture, and any position except dense shade will suit them, while for naturalising among old buildings, ruins and rocky places they are ideal. It is, however, intended in the present note to recommend them for filling some of the beds and borders after such subjects as Wallflowers and Polyanthus are removed.

To secure the best results and to get them to flower fairly early it is essential to make an early beginning. Seed may be sown at any time from January to March, but about the end of January is a suitable period to make the principal sowing. If a quantity is needed boxes will prove the most convenient; these should be filled with light soil and the surface made level, then the seeds sown thinly and evenly, just covering them with fine soil.

Place the boxes in a warm greenhouse or where the temperature is about 50° to 55°, and cover them with sheets of newspaper until germination takes place. When this stage is reached a slightly cooler temperature is advised, and the seedlings must be kept as near the roof glass as possible. Cool treatment should be the rule for all annuals if raised under glass, then nice stocky plants will be obtained that will give a good account of themselves in the beds. When the seedlings have made three or four leaves they must be pricked off either into boxes filled with ordinary potting soil, or in cold frames. If the latter are chosen, stand the frames on a hard bottom, then place a thin layer of decayed manure, over which lay 2 inches or 3 inches of loam and leaf-mould. Make it firm and then prick out the seedlings a few inches apart. By the time they are ready for planting out the roots will have reached the manure, and in consequence the plants can be removed to their permanent quarters with a good ball of soil. If the weather is cold and frosty the lights may be covered with mats, but during the day when it is mild and bright the lights can be drawn back, thereby gradually hardening the plants off and at the same time preventing them becoming weak and spindly. Where the seedlings are placed in boxes the treatment is the same.

Directly the Polyanthus and Wallflowers are past, replace them with the Antirrhinums, arranging them about a foot apart. It is not necessary to wait until there is no fear of frosts, providing the plants have been inured to outside conditions. Where a quantity of bedding plants are put out, including Pelargoniums and other tender subjects, a few beds or borders of Antirrhinums relieve the pressure somewhat during May, as the latter are put out, as a rule, the end of April or early in May. If the soil is dry, give it a good soaking of water a day or so prior to planting.

There are three sections of Antirrhinums—tall, dwarf or Tom Thumb varieties, and intermediate, the latter being most adaptable for bedding. The finest Snapdragon that we grew last year was Sutton's Orange King, a glowing orange scarlet which at a distance was a most vivid and striking colour.

Altogether there were five hundred plants in a border about 4 feet wide, and no bed looked finer than these beautiful Antirrhinums. Other good kinds were Bonfire (rich apricot), Carmine Pink, Bright Crimson and Fire King, while Dobbie's Maize Queen was very pleasing and distinct.

When planting out the Antirrhinums it is a good plan to arrange a few groups in other parts of the garden where they can remain. After flowering, cut off all the old flower stems and seed vessels, then the majority will live through the winter and produce a fine display in advance of the seedlings raised in January of the same year.

Chepstow. T. W. B.

BOX EDGINGS

WHY is it that so many people when laying out Rose gardens and other more or less formal places, including vegetable patches, edge them with Box? That this is an error must be manifest to anyone who gives the subject any thought, unless, of course, the object is to represent some particular type or historical phase of gardening. The objections to Box are well known. It involves an enormous amount of labour, it harbours snails and other pests, it is as bad as Privet for exhausting the soil within several feet of its base, and there comes a time when, despite the everlasting clipping, the plants get too big and must be rooted out and replaced with smaller ones. Then there is one other grave objection to Box, yet one not often noted. I refer to its smell. Go into a Rose garden on a warm summer day, and if the beds are edged with this shrub it will not be the perfume of Roses that will greet you, but the strong, green odour of Box. Though not an unpleasant smell this is sometimes so powerful that it pervades the whole atmosphere, entirely obliterating the fragrance of the Ros[illegible]

Vol. [illegible]

A Selection of Sweet Peas for 1921

IN looking over some back numbers of THE GARDEN I came across "A Sweet Pea Selection for 1920" that I gave in a February issue (No. 2518), and it occurred to me that the names of a few "plums" for the coming season might be welcome to Sweet Pea enthusiasts. The select dozen for 1920 was as follows: Edna May Improved, Hawlmark Pink, Jean Ireland, R. F. Felton, Warrior, Maud Holmes, Valentine, Edrom Beauty, Cecily, Annie Ireland, Agricola and Mrs. Tom Jones. Then the Rev. Joseph Jacob gave the following set as his choice: Royal Purple, Hawlmark Pink, Mrs. Tom Jones, Mother-o'-Pearl, Tangerine, Moneymaker, Daisybud, Commander Godsal, R. F. Felton, Valentine, Gladys and Dobbie's Cream. Mr. Cecil M. Bailey, from the "Emerald Isle," followed with a select dozen as follows: Cecily, Charity, Valentine, Edward Cowdy, King Manoel, Jean Ireland, Hawlmark Pink, Royal Purple, Sincerity, Ivorine, Dora and Hilda. That there are many favourites in all three selections few readers will disagree. Some have more firmly established their claims, others have disappointed.

My selection for 1921 shall be a dozen placed in order of merit and chosen on the following basis: They are to be vigorous growers; they are to be sunproof so that their value for garden decoration may not be marred by any unsightly shading materials, and they are to have no tendency to produce coarse, gappy blooms. Where possible I shall select a variety that gives a good proportion of four-bloomed sprays. I do not claim that this selection is an ideal exhibitor's twelve, but all the varieties can be grown large enough for the show boards, and, moreover, there is a wide range of colour, sufficient to give plenty of variety to a stand.

My first choice is Cecily, the finest pale cream pink ever raised. It is lit up by a soft salmon glow and is charming for table decoration. It is a rampant grower, yet it has not the coarseness that is so often found in these ultra-vigorous types. If grown for exhibition I would either take it up on three stems or leave a few laterals if grown on a single stem. When well grown it has been known to give five, six and even seven flowers on long stems. Most readers will be satisfied with well-placed fours. I generally let Cecily have its "fling." In the height of the flowering season there are very few sprays that are not "fours," and when the plants are at the top of the netting I can still find the four-bloomed sprays and the long stems. If you have not included Cecily in your 1921 set, do so by all means, if you are not too late, for I understand there has been a tremendous demand for it.

No. 2 is Constance Hinton, with a couple of faults that it will perhaps always retain. It is a brown seeded white, therefore you will find a few blush-tinted blooms in every dozen or so plants. Then as the season advances the stems always begin to get short. I find this fault with Constance year after year. For purity of colour and length of stem, other whites, such as Edna May Improved and Anglian White Improved (both fine varieties) beat it. But no white has the density of petal that Constance has, none the big breadth of standard. There are fours innumerable and the blooms are perfectly placed on the stem. If you can grow Constance Hinton as it can be grown, and if the Clerk of the Weather will give us a good old English summer for 1921, you will agree that this is *the* white.

I take a novelty for No. 3. It is one of the latest of Mr. Alexander Malcolm's creations, and I think his best. Royal Scot is about the last word in dazzling shades. It is likened to the scarlet of a soldier's tunic. Most of us have forgotten what the true colour of one of these is like, and I think the person who wrote this colour description has, too. I call Royal Scot an orange scarlet, more vivid than Thomas Stevenson, The President or Edward Cowdy, more fiery than the Sweet Pea that bears Mr. Alexander Malcolm's name. In the sunshine it is particularly brilliant, all the lustrous orange seems to be displayed when it catches the rays. I cannot conceive of a more telling variety for a clump or for the middle row in a set of twelve, flanked by a cream and a purple.

The cream I would put near it would be Majestic Cream, my fourth choice. It has five strong points to recommend it, and on these five points I think it beats all others. It has vigour (some autumn sown seedlings were the strongest of anything I have seen). It has extreme waviness, a true Spencer character, and this I consider is its strongest qualification. The blooms are well placed on the stem and they are mostly "fours." There is length of stem and finally, density of colour.

Next comes Doris, a lovely cherry pink that has quickly won its way into the first rank. It has all the characteristics of an ideal Pea. Its colour is bright in the garden and even more beautiful under lamplight. There is a touch of salmon underlying the cerise and this provides the radiant glow it assumes in artificial light, but the deep pink is so overlaid that it is quite sunproof. The big broad standard looks you full in the face. You cannot miss it on the stands. You should not miss it from your selection for next season, for it has assuredly come to stay.

No. 6 must be Royal Purple. It is so distinct, it is such an easy variety to grow, it gives so many fine big blooms and nearly all fours in the height

STOCK-FLOWERED LARKSPURS. THISTLE ANNUAL [illegible]

of the season, that its claims are justified. And yet I cannot say that the colour is a special favourite of mine. I like the richer tone of Royalty better, but it cannot come up to Royal Purple on other points. I am inclined to think that Royal Purple is a trifle harsh in tone. It spots badly in wet weather, and, of course, it is a bad lamplight colour, but in spite of these drawbacks it is a popular variety.

That is my first half dozen. If you have only room for this little set I do not think you will have many disappointments.

But to continue. Valentine is my seventh choice. I hesitate between this and Daisybud, and also feel that I have ousted another good pink in Unwin's Pink. But each season Valentine seems to be as good as ever. It has a little more uniform colouring than Daisybud, the latter showing the white ground more distinctly. I should describe Valentine as a rich blush pink, the best of anything we have had in this section since the days of the old favourite, Mrs. Hardcastle Sykes. There are fours in plenty, strong stems, and beautifully placed blooms. It is a charming flower for decorative purposes.

"Where is the lavender?" you will ask. Here it is—Gladys. Two other fine lavenders that have claims to first choice are Victory and Austin Frederick Improved. The former is a very vigorous grower, with huge stems and plenty of fours, but the blooms are somewhat coarse and the petal is rather thin in texture. Austin Frederick Improved is a fine bold-flowered silvery lavender that is an ideal exhibition flower, but it is not quite the same warm shade of lavender that Gladys is. I am disappointed with R. F. Felton. Too often it is very coarse, many times the leading shoots end in a blind point, and the standard falls back like a butterfly's wings. Gladys has the warm rosy tint of R. F. Felton suffused with the lavender, making it a lilac self. It has a beautifully formed bloom, and what is its greatest asset, practically every spike is perfectly placed. For these reasons I choose it as an ideal lavender for all purposes.

Mrs. Tom Jones is my ninth choice, and is without doubt the best blue Pea we have. It is particularly fine when we have a hot, dry summer, as the rain so soon spoils its beauty. I feel sure it is seen at its best in the garden. Under canvas it is not quite the same rich shade of blue. All the same it gives a bright bit of colour to any stand. The dark navy blues, such as Jack Cornwell, V.C. and Commander Godsal are distinct and rich in the garden, but they do not blend so well with the pinks and they are too heavy for indoor work. I would choose Mrs. Tom Jones in a select dozen for any purpose.

The Picotee-edged varieties must have a representative. Both Jean Ireland and Annie Ireland are exquisite, and it is difficult to know which to choose. I think Jean is the most consistent and beautiful. She seems to defy all weathers and

THE GIANT WHITE BROMPTON OR WINTER FLOWERING STOCK.

pitted. Both are very pretty when the autumn days come, and the rich edging is intensified in the slowly unfolding blooms. So Jean Ireland, with its rose pink margin and rich cream ground, a most perfect colour blend, is my tenth choice.

Charity is No. 11. It has more colour than Maud Holmes, especially on the wings. Throughout the bloom it is a deep crimson self. For exhibition purposes it is very useful, supplying that bright touch of red that finishes off a stand, and until we have a really first-class scarlet, the crimson will remain unchallenged. I like Maud Holmes for garden decoration. It is bright in colour and very free. There are plenty of fours and the stems retain their length throughout the season. Each year I grow a batch of it. The plants come direct from Mr. Holmes. They are the real thing. To be sure of seeing Maud Holmes at its best you must have a true stock. There are the same pink with Charity [illegible]

My last choice is a colour of which I am not very fond, but which can hardly be omitted from a selection that embraces varieties that are to be utilised for exhibition purposes. I refer to the maroon section, and Warrior is my final selection. King Manoel is a good maroon, and Maroon King has many strong points, while the mahogany shades, embodied in Dobbie's Maroon, Hawlmark Maroon and Splendour, though of more pleasing colour, are hardly as vigorous as one would like and the flowers are on the small side.

There, then, is my dozen. I give you a reserve, and a good one, too. If you have room for a baker's dozen, try Picture. If Cecily were not such an outstanding variety, Picture would have been in the first twelve. Even now I feel that I ought to have found a place for it. But the difficulty is, What shall we omit to make room for it? Try to find space somewhere for a clump of it. The colour is a pale cream pink, slightly deeper than Cecily, with more colour on the wings that brings it in the classification lists under the heading of deep cream pink. It is a flower of wonderful size. It has a big broad, frilly standard. It has vigour and length of stem. In short, it is a novelty that will make a name.

I know that I have omitted some very popular varieties, especially Hawlmark Pink. Unfortunately, however, this variety gives two colour types, the richer and deeper being the true one, the other, a pale Hercules. There is an improved stock of this variety, but it is not yet on the market. When it appears in the catalogues I will give you Hawlmark Pink Improved in the first dozen, perhaps in the first six. Till then I leave it among the coming novelties. NORMAN LAMBERT.

Winter-Flowering Stocks

THE necessity in many quarters of a strict oversight in the consumption of fuel has forced a number of people to winter in the greenhouse plants that need but a minimum of heat to bring them into bloom. In this connection it is pleasing to note that Stocks are being grown indoors much more than was formerly the case. Brompton Stocks used to be much in vogue thirty or forty years ago, and seed sown in the open ground in June could generally be depended upon for furnishing enough plants for potting up in October; but the race of Brompton's as we knew it has long since been superseded by more beautiful strains that give finer and richer scented spikes, which are at their best from November to March. We mention Beauty of Nice, valuable, too, as a summer tenant of the borders, in various shades of colour, among which rose, salmon pink, mauve, [illegible] Three of the best for winter work are Snow's All the Year Round, a most pleasant white; Giant White [illegible] and Christmas Pink, which is [illegible]

double pink flowers. In the south-western counties one often notices these sorts blooming outdoors, but it is really when treated in their upbringing as Wallflowers, and subsequently potted for indoor flowering, that one realises their full capabilities, the merest warmth being enough to bring into beauty and sweetness the spikes which remain good for many weeks. W. LINDERS LEA.

A SELECTED STRAIN OF PETUNIAS

THESE old-fashioned flowers seem to be less in evidence at the present time than they have ever been during the whole of their history. For furnishing the greenhouse or decorating beds and borders they are unsurpassed with the perpetual wealth of blooms from early spring to late autumn. Some have spurned them because a few flowers have magenta tints, overlooking the many other delightful colourings, ranging from pure white to deepest rose and crimson, with clear yellows, purples, ultra-violet-purples, and gorgeous, brilliant blues, the latter remindful of those famous colours of old Derby porcelain. Apart from refinement and range of colouring, there is the shape and pose of the flower, which is most artistic. The form of the trumpet and the fluting and frilling of the edge, accentuated in so many beautiful variegations, are a source of never-ceasing delight to all lovers of Petunias.

PETUNIAS FOUR MONTHS FROM THE TIME OF SOWING.

The prevalent idea, associated in some minds, of the necessity of heated glass-houses in order to raise them from seed, though quite common, is totally untrue. The seeds germinate in a frame or cold greenhouse, and the resultant seedlings are equally as good if not better than when raised no heat, only they commence flowering somewhat later. Perhaps a few notes on the culture of Petunias would be acceptable at this juncture. The raising from seed and subsequent pricking out into boxes and pots is too well known to all good gardeners, but sometimes the fact that Petunias love lime is overlooked. It is not usually known, however, that these plants, whether in pots or the open border, are best when wintered in frames and grown on the second year. They are then much more robust, floriferous with large blooms, and they seed with the greatest ease, both in the greenhouse and the open. The best way is to pick out the most desirable plants, both in pots and in the beds outside. In the latter case they should be potted in 5-inch or 6-inch pots about the third week in August. They should be cut down so as to leave about 2 inches or 3 inches of the main secondary branches where they strike off from the main stem. Fresh growth will then be made which, ripening well, will carry the plants through the winter, during which period very little water is required, but the soil must not be allowed to get too dry. The best potting compost is loam, sand, leaf-mould and lime, sufficiently proportioned to render the soil firm, retentive of moisture, but at the same time ensuring perfectly free drainage. Sulphate of potash at the rate of 1½ozs. and steamed bone flour 3ozs. to every cubic yard of potting soil, evenly sown and thoroughly well incorporated, is necessary to obtain the best results.

In the spring when growing they should be given a little nitrate of lime, a quarter of an ounce, or ammonium nitrate (96 per cent. recrystallised), one-sixteenth of an ounce to one gallon of water. This can be repeated three or four times during the season. Whether in pots or beds outside they will require from three to five thin Bamboo canes 6 feet or 7 feet long arranged like a fan, to which they will have to be kept tied. When full grown no canes will show, but the main branches will have produced a wealth of large and exquisite blooms over an inflorescence 6 feet or more long. When at their best they make an impression which is not only amazing, but entrancing. Left alone they seed themselves without all the trouble of fertilisation, and this seed produces a progeny in which the weak seedlings (usually the best coloured and choicest flowers) are no longer weak, but as robust as the coarse, vigorous seedlings raised from the first year plants which every good gardener throws away at pricking-out time. Needless to say that in their first year, though the plants are allowed to flower as much as they like, they must not be allowed to seed that year, as otherwise neither the flowers nor the seed will be so fine in the second year.

The illustration is of a selected strain of Petunias prepared from a photograph taken four months from the date of sowing the seed. Some of them grew 9 feet long in the second year and were a mass of flowers. The resultant seed was purchased wholesale at 3 guineas an ounce.

C. A. JARDINE.

Some Comments and Notes

A WRITER recently had a good word for Verbena venosa. Is it not singular how seldom writers of hardy plant notes, and calendar writers too, refer to this valuable plant? Does such reticence suggest a poor or non-acquaintance with the plant? The writer of the note in the November 6 issue mentions how freely this Verbena seeds and germinates with him. In contrast to this statement a write in the Journal of the Royal Horticultural Society for July, 1920, says germination is very slow, but that it may be expedited by (1) immersion in boiling water for one minute, (2) immersion in water at 55° C. for five minutes, (3) keeping the seed moist with a 0.2 per cent. solution of sodium nitrate or ammonium sulphate for forty-eight hours, (4) arranging the seed in layers between fine sand in flower-pots for five months before use. These performances are quite unnecessary, and more calculated to retard than hasten germination because of the waste time spent on such preparations. Experience has taught me Verbena venosa will come up in three weeks to five weeks, this latter period referring to seed sown in outdoor beds. To raise plants for ordinary usage it will be found a good plan to sow seed towards the end of July or in August, winter a percentage of plants from the severest of the weather, and plant out early in spring; but in light soil or warm localities these protective measures would not be needed. Several well known plants classed as exotic weeds came in for unkind comment in these pages earlier in the season by acknowledged horticulturists. New readers of THE GARDEN should not take those depreciations too seriously or they may deprive themselves of much pleasure and nurserymen of their custom. The condemnation meted out to some of the subjects was too sweeping—qualification should have been added, that soil and locality make all the difference to the success of any given plant. Plants verging upon being a nuisance in one soil are most difficult to establish in another soil—in fact, may fail—but if induced to grow, do so only quite moderately. Where a plant does overrun its space early grubbing out will prevent it becoming a pest. The fragrance of various sorts of leaves has been interestingly dwelt upon by several writers, but no one made reference to the scent of fallen Oak leaves. To

lie is to find a delightful odour always given off; the scent being most noticeable while the leaves are in process of falling and for a short time afterwards. The sweet smell is very pronounced. I wonder if others have noticed such? Is there an official recognition of the difference between stewing Pears and baking Pears? If so, which is the best baking variety? Some of our acknowledged stewing Pears do not bake well; they lack flavour when so treated, and are rather dry eating. On the other hand, a Pear which is a good baking sort becomes entirely lacking in flavour when it is stewed. A Pear tree here, an old and irregular bearer, yields delightful "bakers," but when the fruit is stewed it becomes almost tasteless. The name of the variety I do not know.

Ampthill. C. TURNER.

From a Daffodil Grower in New Zealand

THE writer, a humble contributor, appreciates the excellent articles containing such valuable information appearing in the various issues of THE GARDEN. Shrubs and rock plants have a great fascination for him (and, like "Anne Amateur," the writer could spend a delightful afternoon with a seedsman's catalogue). The poetically coloured language (if one might so use the term), the wonderful rosy-morn descriptions are more enchanting than "The Arabian Nights"; are there not pen-pictures of the most delightful gardens in England; descriptions of the various exhibitions of rock and alpine plants held at the shows of your great Metropolis; the Shirley Poppy as described by "Somers" and the wonderful garden creations? You can get some idea of how eagerly we anticipate THE GARDEN, especially those of us who are interested in Narcissi.

Opening THE GARDEN and seeing the article on the Ramsbottom treatment produced a sensation like that experienced by our old pioneer prospectors when they dropped across a nugget of gold, for without question it was a discovery. The writer, who happens to be president of the local Daffodil Club, spread the glad tidings among the members, and our Saturday night's discussion (we hold our meetings every Saturday evening during the flowering season, and these are usually attended by from twenty to thirty members—keen enthusiasts—when our latest seedlings and standard varieties, are compared) resolved itself into a discussion on Eelworm and Ramsbottom Treatment.

As a grand finale our season's meetings were brought to a close by the Club Championships Competitions. The members of our club are widely scattered, extending from 100 miles north to 130 miles south of Dunedin. In White Trumpets ten club members competed, a splendid vase of White Knight winning. White Emperor was very disappointing. In Barrii's nineteen members competed, Lady Moore, grown in Dunedin, being first, and Pixie, from a country grower, being second. In Poeticus seventeen entries came forward, a seedling raised at Sawyer's Bay, near Dunedin, securing first and second, Kestrel, Madrigal and Raeburn being unplaced. In Leedsii a Dunedin member again won with Liege, though White Lady, grown at Sawyer's Bay, was without a question a wonderful flower. To compare this with an ordinary White Lady one would hardly believe it was possible that White Lady could be grown in all its glory as our Sawyer's Bay enthusiast is able to grow it. In Barrii's (A section) Red Sundew and Bath's Flame were shown by a suburban enthusiast, winning first and second against seven competitors. May Hanson as grown by a Port Chalmers' member carried too many guns for the other Triandus. In yellow Incomparabilis twelve competed, Home Truth, grown at Lawrence, securing first place. In the Poetaz and doubles a Lawrence exhibitor secured first with Ruby Light and Golden Rose respectively.

The Tulip in all its glory is now consoling us for the loss of our Daffodils. Our Narcissi hybridising for the year is practically finished and shrubs are now claiming our poetic attention Our rock gardens are blossoming in all their glory, and though you in England are to-day preparing to meet the winter, we are looking forward to our delightful summer days.

Before this reaches you Christmas with all its festivities will have arrived, and our wishes are that you might have a real old English Merry Christmas and Happy New Year.

REILLY'S CENTRAL PRODUCE MART.
(E. Oswald Reilly, *Managing Director*).
Queen's Warehouse, Moray Place,
Dunedin, New Zealand, October 20, 1920.

Cropping a Ten-Rod Plot, 90 by 30 feet

BY A. E. BURGESS, M.B.E.
(Horticultural Superintendent to the Surrey County Council.)

THERE never was a time in the history of our Island when food production for home consumption was more important than now. The high charges for transport render it necessary that food should be grown in or near the locality in which it will be consumed, and home-grown produce eases the markets and greatly benefits the allotment worker. Even in commercial horticulture there is a great need for reform in this respect, and it is high time market growers tackled the question and saved much of the useless cartage to central markets and back again, as often happens, for consumption in the place of origin. During the war we were urged to grow every possible ounce of food; to-day it is of equal importance, and although the allotment holder is unable to increase the area of his holding, he can, by adopting a definite system of intensive cropping, increase his food crops very considerably.

The cropping plan given below does not fulfil the requirement of every household, and indeed it is impossible to produce such a plan, but it is hoped that allotment holders will adopt the scheme in the main and make such modifications as are necessary. It will be seen that the plot is divided into four sections, marked A, B, C and D.

WEST.

A.	5ft.	MARROW BED.	SEED BED.	RHUBARB.
B.	18ft.	AUTUMN SOWN ONIONS. *One row.* SPRING SOWN ONIONS (GLASS RAISED FOR PREFERENCE). *Three rows.* MAINCROP CARROT. *Three rows.* MAINCROP BEET. *Two rows.* CELERY TRENCH WITH DWARF BEANS, LETTUCE AND RADISHES ON RIDGES.		
C.	50ft. 10in.	MAINCROP POTATOES, *Fourteen rows.* SECOND EARLY POTATOES. *Four rows.* FIRST EARLY POTATOES. *Two rows.*		
D.	16ft. 2in.	SHALLOTS. *One row.* ROUND BEET FOR SUMMER SALAD. *Half-row.* LETTUCE. *Half-row.* EARLY TURNIP. *One row.* SHORT-HORN CARROT FOR SUMMER USE. *One row.* EARLY CAULIFLOWER. *One row.* DWARF FIRST EARLY PEA. *One row.* DWARF MID-SEASON PEA. *One row.* BROAD BEAN. *One row.* RUNNER BEAN. *One row.*		

EAST.

Section A is self-explanatory.

Section B is planted in the main with permanent crops and does not admit of intercropping, except that spring Cabbage, late Turnips and winter Spinach can be planted or sown in September after Onions, and Dwarf Beans, Lettuce and Radishes can be grown on the ridges of the Celery trench. The whole of this section can be cleared in October, and the ground can be trenched and the soil thoroughly "weathered" during winter.

Section C will also for the most part carry a permanent crop, and can be treated in the autumn in the same way as Section B. The portion devoted to first early Potatoes can be cleared in late July and planted with winter Greens; or, if preferred, these can be planted in advance between the rows after the Potatoes are earthed up.

Section D will require more careful consideration, for it is on this part of the plot that a more intensive system of cropping than is generally practised can be carried out. With the exception of the Runner Beans, all the crops can be cleared in June and July, and the land should be immediately prepared and planted with such crops as Brussels Sprouts, Leeks, Savoy and Christmas Drumhead Cabbages, autumn Cauliflowers, Broccoli, Kales and Colewort. A number of other crops can also be planted or sown in July or August, such as Turnips for winter use, Carrots and round Beet, the Celery Cabbage and Endive. In early July a second planting of Celery might be made when one of the early crops is removed, and although this may not be so profitable as the early Celery, it will be found very useful.

In addition to succession cropping there is still the question of intercropping to consider. For instance, when sowing Peas and Broad Beans the summer Spinach could be sown midway between the drills, thus providing an additional crop which will be ready for use in a few weeks from sowing, and can be cleared out of the way before the Peas or Beans get very high. Radishes can be grown in the same way

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

Preliminary.—Readers of this column are asked to use their discretion with regard to any operations mentioned, remembering that the difference between warm and cold localities may mean a variation of some days in the doing of any work. With the advent of the New Year no time should be lost in arriving at a decision as to the seed requirements for the coming year. One consideration in making a selection of seeds should be to ascertain the likes and dislikes of the owners of the gardens, and while it is desirable to rely upon old and proved varieties of seed for main supplies, it is well to keep an open mind upon new introductions and if possible to give a trial to a few each year. It is a good plan to follow up the Royal Horticultural Society's trials of new plants and seeds at Wisley.

Sundries.—If it is the practice to renew all general requirements under this heading at the beginning of the year, note should be taken of stocks in hand and all deficiencies made good.

The Flower Garden.

Appearance.—Make a constant aim to keep a well ordered appearance by frequent sweepings of the lawns and pathways. The roller also may be used when weather permits. Should the edges of any beds or borders be still untrimmed, they should be seen to.

Planting.—Should weather be favourable, make the best use of it to get this work finished as early as possible. The treatment of the soil must depend to a great extent upon the subjects to be planted. A little extra attention to the soil at time of planting is always amply repaid afterwards. With so many beautiful flowering shrubs to choose from it is possible to have something of interest at all seasons of the year; but it may be necessary in meeting the requirements of the place to plant more extensively of those shrubs which will afford a display at one particular season. If possible, room should be found for some of the Cistus, Genistas or Cytisus family, and mention here must be made of the beautiful pink Broom, Notospartium Carmichaeliæ, which is probably one of the most beautiful July shrubs. By planting various Berberis we get a twofold pleasure by their flowers in spring and their berries in autumn. Standard trees of Cherries, Almonds and Pyrus planted in well chosen positions give us colour in the spring. After the Buddleias and other late summer-flowering shrubs are over—among which may be mentioned Olearias, late shrubby Spiræas and some of the Veronicas—we look forward to those shrubs which we treasure for their foliage, as, for instance, Liquidambar.

The Kitchen Garden.

Preparations.—The chief work in this department just now is to push ahead as quickly as possible with the digging or the trenching, as the case may be. Frosty periods should be used for various wheeling operations, getting manure and burnt refuse on to the plots of ground where digging is in progress. Nothing is gained by allowing the men to work on the ground when it is in a "sticky" condition immediately following a thaw. Another most useful and necessary job is the collecting together of fermenting materials, strawy manure and leaves, preferably Beech and Oak, for the formation of hot-beds. By an occasional turning the whole is soon sweet and in a condition for future use.

MR. H. TURNER.

Plants Under Glass.

Propagation.—Where Chrysanthemums are grown for exhibition probably the major portion of the cuttings will already be in, but the first week in the New Year is time enough for general purposes, while varieties of the single and decorative kinds will do any time up till the middle of February. Whether cuttings are inserted in pots or boxes, let the soil be light and open and a free sprinkling of sharp silver sand added. A most suitable place for the cuttings is a shallow frame placed in a Peach-house or vinery just closed and having a temperature of about 50°. A good batch of Perpetual Carnation cuttings may now be got in. Select healthy, short-jointed cuttings from the lower portions of the flower-spikes. It is best to remove them with a heel if possible, and with very little trimming at the base they may be dibbled in. The soil may consist of two parts sifted loam and one part of well rotted leaf-soil, with enough sand added to keep the compost sweet and porous. A frame or pit having a temperature of about 58° or 60° Fahr. will suit them.

The Hardy Fruit Garden.

Planting.—It is probable that most of this work is done, there having been such an exceptional autumn for the work. Where delay has been caused through extensive alterations or for other reasons, take the first opportunity of favourable weather, providing the ground is in suitable condition, to finish it. Plant firmly and stake where necessary. When planting Apples, Pears and Plums trench the ground thoroughly to a depth of about 3 feet. If very stiff, some burnt refuse and a little rubble may be worked in. As stone fruits need a fair proportion of lime, use rubble more freely for the Plums. It is a good plan to avoid using any manure at the time of planting in the soil, a good mulch being preferable.

H. TURNER,
(Gardener to the Duke of Northumberland),
Albury Park, Guildford, Surrey.

FOR NORTHERN GARDENS.

Opening Remarks.—Looking back on the season we have passed through, we find that for gardeners, as for other people, it has been one of surprises and disappointments, failures and successes, and a finish, generally speaking, better than we anticipated. Hope is surely the sheet anchor of the gardener, and without it he would be a sorry creature. It might truly be said of him that man proposes but God disposes, because in his sowings and plantings and, in fact, his work in general, he can only make the start and leave the completion in the hands of Nature. Happily, she rarely fails him, and though at times the climatic conditions of the past season have been enough to make the most cheerful gardener despondent, things worked themselves round again, and one realised at the end that worry availeth naught and that no gardener ought ever to be a pessimist.

The Kitchen Garden.

The Onion Crop more especially delights in a piece of ground which has been well manured and deeply dug. Onions, unlike the majority of garden crops, take it as no hardship to be grown on the same plot for a number of years.

Spring Cabbages.—Recent storms have had a bad effect on these, many having been blown and loosened. See that all are made firm, while the hoe may be used with advantage when the ground is dry.

Jerusalem Artichokes.—If not already done, a quantity of these should be lifted and stored in a cool cellar for use during rough weather.

Celery.—A few Spruce branches or straw litter should be kept at hand for covering the trenches during frosty weather. Unfortunately, the Celery maggot has caused havoc this season, many crops

MR. JAMES MCGRAN.

I have seen being utter failures. This pest is difficult to deal with when protected under the skin of the leaf.

The Fruit Garden.

Replanting.—Where any replanting is taking place it is well to bear in mind that at times it is an advantage to rejuvenate the soil, more especially if the ground has been previously occupied by a similar crop. A mixture of roughly chopped loam with a fair sprinkling of lime rubble and wood-ashes is a suitable compost.

Plants Under Glass.

Chrysanthemums.—Strong cuttings may now be obtained from plants which have been cut over some time ago. The best results are obtained when the cuttings are struck in a nice brisk temperature, the single-stemmed varieties in 2½-inch pots and the bush varieties in ordinary cutting boxes. When dibbled into a nice mixture of leaf-mould and sand they root quickly, and after repotting are gradually removed to cooler quarters. When troubled with leaf-mining maggot it is well to spray with Quassia some days before taking off the cuttings, as this makes the foliage distasteful to the pest.

Primula obconica.—Where these have been in flower for some time an application of liquid manure will be of much benefit, including occasional waterings of soot-water. This encourages fine dark green foliage and strong flower-stems. One finds that owing to the increased cost of bulbs many establishments are growing extra batches of this useful winter-flowering subject. Chenies Giant Hybrids have proved to be very fine in size and colour.

Cinerarias.—Early batches of these will now be coming into flower, and it is well to fumigate or spray before moving to the conservatory, as this plant is most susceptible to attacks of aphis during the early part of the year. Keep a sharp look-out for the leaf-miner, and get it destroyed in its early stages.

The Pleasure Grounds.

General Work.—Most of the leaves having been swept up before now and lawns made tidy, walks in want of gravel or cinders should now be attended to. Turf edgings in need of repair may also be done at this time and so relieve pressure of work at a later date.

Shrubs.—Hardy shrubs which have made a lot of growth this year should now be pruned. Many of our finest flowering shrubs never get a chance owing to the want of a little discreet pruning. By all means avoid overcrowding in the shrubbery, unless perhaps where a dense screen is required. Be careful to study the sorts which flower on the previous season's growth. In this case thin judiciously, so that not only may one keep the plant trim, but the growths that are left ripen ever so much better.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

THE GREENHOUSE.

CARNATIONS ATTACKED (*E. J.*).—The Carnations are attacked by red spider, and the atmosphere has probably been kept too hot and dry. On suitable occasions try damping down, and dust the plants with flowers of sulphur. Free ventilation with an atmosphere neither moist nor very dry will keep both rust and red spider at bay.

TREATMENT OF CYPRIPEDIUM INSIGNE (*Mrs. F. E. C.*).—The soil for this Cypripedium should consist of two parts fibrous loam, one part each of peat, leaf-mould and chopped sphagnum moss, adding plenty of coarse sand, with pieces of crock and charcoal the size of Peas to keep the material open. The pots must be very well drained. During the growing season a little weak liquid cow-manure and soot-water will be beneficial. It is not too late even yet for the plants to flower this winter, though the buds should certainly be showing now. Try Messrs. Pulham and Son, 71, Newman Street, W.1, for stone vases.

PALIURUS AUSTRALIS (*W. E. M.*).—Paliurus australis is a small tree in Southern Europe and Asia Minor which sometimes grows 30 feet to 40 feet high. Here it rarely exceeds 20 feet in height with a trunk up to 9 inches in diameter. The branchlets are usually numerous and slender, and they are well armed with slender but rather strong spines, which are often less than an inch long, although sometimes much longer, produced in pairs, one pointing upwards and one downwards from each joint. The flowers are small, axillary and greenish yellow. They are followed by rather curious circular fruits, the central seeds being surrounded by a membranous margin. It is perfectly hardy in the British Isles. We are interested to learn of your success with cuttings of Prunus Pissardi.

FRUIT GARDEN.

AN OLD MULBERRY TREE AND ITS MANACLED BRANCHES (*D. H. S. S.*).—Our correspondent's letter and sketch make the matter clear (this is not an uncommon condition for old Mulberry trees to be in). Seeing that the throttled branches are showing signs of early decay by prematurely shedding their leaves, the probability is that they will not live for many more years. We suggest that the most satisfactory way of dealing with them will be to forestall their decease by cutting them off now, immediately under the ring pressure. Young shoots would spring up from the stumps and help in time to furnish the tree again in that part with branches. We think that the cutting and the mauling of the tree necessary before the rings could be cut out would do more harm than their absence would do good. The question seems, then, to resolve itself into leaving the tree alone or cutting off the decaying branches now.

APPLES FOR EXAMINATION.—I am forwarding you two Apples from Bramley's Seedling. Can you inform me what is the cause of the green, frozen-like condition of the fruit? Only a small proportion of the crop was affected like these, and some were quite in the centre of the tree; besides we had no frost to affect them. I gave the trees a fair dusting of flue dust in spring. Lane's Prince Albert, Grosvenor and Lord Derby are not affected. I have been growing fruit for many years, but never saw this condition before. I saw a box of imported fruit opened a month ago, and they were all in this condition.—T. O. WALKER. [The Apples sent are affected with the phenomenon called "glassiness." The exact cause of this trouble is not known, but it is apparently due to severe pressure of water upon the interior walls of the cells during a critical period of their growth, causing the sap to transfuse into the spaces usually filled with air. It is not often that very many Apples on a tree are affected in this way.—ED.]

KITCHEN GARDEN.

SPLIT ONIONS (*J. C.*).—The splitting is generally due to excess of rain coming after a dry period early in summer when growth is most active. Planting in rich, too loose ground is also conducive to the trouble.

NEGLECTED ASPARAGUS BED (*T. L.*).—One ought to be able to see by the stubble of the grass left (after being cut) where the roots of the Asparagus are. In any case one cannot mistake the roots of Asparagus as compared to those of weeds. The roots of the former are fleshy and thick. One must go cautiously to work in clearing away the grass, for fear of injuring the crowns or centre of the roots. This is the part which will furnish the grass of next year; it is the part from which the stubble springs. The best way to proceed will be to loosen the grass roots by placing a hand fork carefully under them, not deeper than necessary for this purpose, and then to pull them up by hand. Having cleared the bed of all weeds as early as possible, give the bed a surface dressing of well-decayed farm or stable-yard manure, laying it down 3 inches deep. Towards the end of March cover the manure over with a slight covering of soil—say, 2 inches or 3 inches—and then sprinkle over the surface a scattering of salt—or, what is better, nitrate of soda—a good handful to the square yard. Watch for the young grass coming up through the soil early in April, and where there are blanks sow two or three Asparagus seeds in each of the blank spaces, and the bed, with careful after-treatment for a few years, will again become well established and profitable.

MISCELLANEOUS.

A SUBSTITUTE FOR STABLE MANURE (*H. G., Brum*).—In these days when stable manure is comparatively scarce we have to rely on substitutes. Our correspondent will find Wakeley's Hop Manure excellent for flowers, fruits and vegetables. It is sent out in a form that is clean to handle, has no offensive smell, and may be used for all purposes in place of stable manure. For top-dressing Rose beds, fruit trees, and use in the kitchen garden, it is exceptionally useful and safe to handle.

APPLE SHED ROOF CREOSOTED: TAINTING THE APPLES (*W. R. C.*).—Nothing is easier tainted by an impure atmosphere than fruit of all kinds (Apples, perhaps, more especially). Give the roof two coats of fresh lime whitewash. That, we think, will take the taint away. If the colour is objected to add a little soot.

THE DESTRUCTION OF GROUND ELDER (*M. S.*).—The best method of removing the ground Elder from the land is by digging the ground over and picking out every bit of the weed one can see. Next year bits of the weed will be sure to appear, which should be hoed off or pulled out immediately they are seen. We do not know of anything that can be applied to the ground that will be likely to kill the weed without being detrimental to the soil.

FOWL MANURE FOR LAWNS (*C. C.*).—Fowl manure can be used successfully on lawns. The best method of application is to mix the manure with sand, turn it a few times at intervals of two or three days, and then spread it. By doing this it will be found that it can be distributed more easily than when used in a fresh state.

CLEARING WEED FROM A LAKE.—From time to time I have noticed in your correspondence columns letters enquiring the best manner of clearing weed from a lake. Prior to the war I had a large experience in this class of work and obtained some very good results both from cleaning out and also by addition of sulphate of copper (blue copperas). The method of adding the chemical was to dissolve the material in hot water in a tub on the side of the reservoir and to allow it to flow into it in proportion to the volume of water entering the reservoir. The proportion was one part of the solution to 100,000 parts of water, and it usually took two or three weeks to obtain any results in the diminution of the weed. This method, however, only kills the weed and sends it to the bottom. We did not find that this method had any detrimental effect upon the fish, and as the water in the reservoirs concerned was used for the purpose of calico printing, bleaching and dyeing, we had to make very careful experiments before treating on anything like a large scale in case the chemical so affected the water that it would in turn affect the colours and dyes. It was found, however, that all traces were lost within three or four days of completing the process, therefore we could only carry out the work during the period when there was plenty of water in the reservoir.—A. C.

THE DESTRUCTION OF MOSS ON PATHS (*B. B. R.*).—Moss on paths can be destroyed by using any of the arsenical weed-killers to be obtained from chemists or seedsmen with directions for use. It can also be killed by applying sulphate of copper at the rate of 1lb. to four gallons of water.

NAMES OF PLANTS.—*A. L. D., Marple.*—Ardisia crenulata.——*L. B., Stonehaven.*—Cotoneaster frigida.——*T. S.*—1, Salvia leucantha; 2, Chænostoma hispida.

GOOSEBERRIES

GOOSEBERRIES are among the most valuable of bush fruits grown in this country, and deserve more attention than they usually get in private and market gardens. To be successful in their cultivation it is highly important to select a well-drained, unshaded site, where there is a free circulation of air. Gooseberries prefer a deep, cool loam. Soils of a light nature must be freely assisted with a liberal supply of organic manures. The land should be thoroughly cultivated to a depth of at least 18 inches or 2 feet, if possible. The best crops to take prior to planting are Potatoes, Carrots or some other useful root crop, which permit of the land being thoroughly cleaned of all perennial weeds—this is extremely important.

If the land has not previously been well manured it should be given a good dressing of well-decayed stable manure (if obtainable) at the rate of 12 tons to the acre, or an equivalent dressing of some other suitable organic manure, otherwise a mixture of three parts superphosphate of lime, two parts Kainit, and one part of sulphate of ammonia at the rate of 3 ozs. per square yard, applied in early spring, on light soils, or basic slag on heavy soils will be found suitable.

Gooseberries may be planted in the autumn, winter or spring if the land is in good friable condition. I prefer planting in November at a distance of 6 feet square for strong varieties; or though 5 feet square for weak or upright growers is generally sufficient. In any case, overcrowding must be avoided at all times to allow a free circulation of air, as close, humid conditions are favourable to fungoid disease, especially American Gooseberry mildew. All broken or straggling roots should be trimmed off before planting; the bottom of the holes should be made convex; the roots well spread out and the soil firmly trodden as it is put back, keeping the plants at the same depth as they have been growing in the nursery. The main shoots ought to be cut back at the same time, two-thirds or so according to their strength, to an outside terminal bud. In order to conserve moisture during the growing season hoeing every three weeks will be found very beneficial. On light soil manure should be spread thickly over the roots in the spring and left there to rot.

At the end of the first season pruning should be carefully done, selecting six or seven of the strongest shoots, well spaced, to lay the foundation of the bush. These should be cut back at least to half their length, and all side growths to within 1 inch of the base to form spurs. The pruning must be governed by the vigour of the bush and habit of the particular variety, taking care that the terminal bud that is left is pointing outwards, and increasing the number of leaders annually without overcrowding. Gooseberries may also be grown on the cordon system if size and flavour are the main objects in view; if on single stems plant 1 foot apart against a wire trellis 6 feet high, running north and south. Summer pinching of the side growths to four or five leaves is essential in this case, allowing the leading growth to extend, and prune back in the winter as advised for the bush plants. Select varieties with a strong upright habit for this particular system.

GOOSEBERRY KEEPSAKE.
Valuable for early market.

In choosing varieties for planting due regard must be paid to the locality as well as the different soils, but the following sorts are not likely to fail in most parts of the country. Crown Bobs, Cousen's Seedling, Howard's Lancer (as mentioned in THE GARDEN on November 27), Keepsake, Whinham's Industry (this is one of the best all round varieties in cultivation), and White Lion (a late variety similar to Howard's Lancer).

Pen Moel Gardens, Chepstow. J. ADAM.

William Turner, Divine and Herbalist

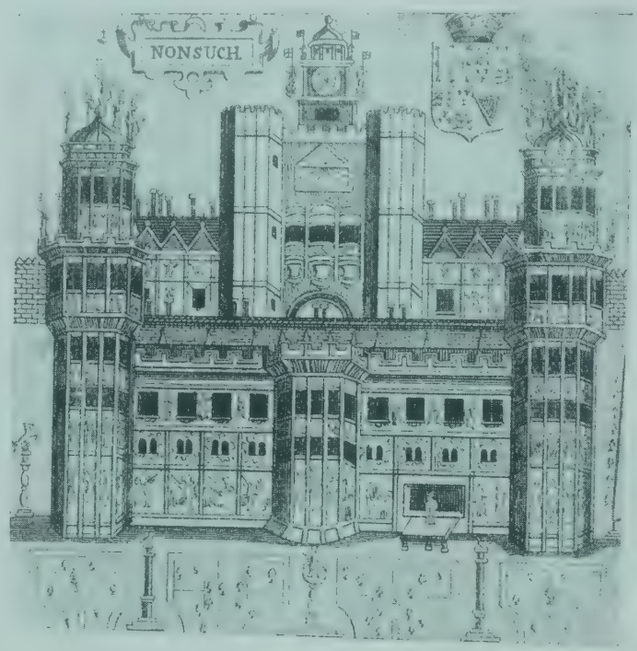
"IT'S AN ILL WIND"—THE FATHER OF BRITISH BOTANY—HIS PRIVATE GARDENS—HIS INFLUENCE ON HORTICULTURE.

WILLIAM TURNER was a fiery, fighting Protestant clergyman, who in the latter part of his life became a decided thorn in the flesh of his ecclesiastical superior, the Bishop of "Bathe and Welles," on account of his very pronounced and outspoken opinions. He was born at Morpeth in Northumberland about 1510 to 1515. To finish his education, through the good offices of a wealthy patron he became a member of Pembroke Hall (now Pembroke College), Cambridge, where he had as tutors Nicholas Ridley and Hugh Latimer, both of whom ever after were his lifelong friends and from whom he imbibed a double portion of the spirit of the Reformation, which in after years was to exercise such a strong and remarkable influence on his life. Twice he was obliged to leave England on account of his religious opinions—first, during the reign of Henry VIII, and again when Mary succeeded Edward VI. These enforced residences abroad gave him the opportunities of his life, for he was there able to pursue what I cannot but call his inner bent or inclination—the study of natural science, and more especially plants. He lived, on the first occasion of his leaving England, for a long time in Italy; at Bologna, where he studied botany under the famous Luca Ghini and where he found a botanic garden; at Ferrara, where, most likely, he took the degree of Doctor of Medicine; at Milan; at Venice, and other towns; then for a short period in Switzerland, where at Zurich he visited Conrad Gesner; and, lastly, in Cologne, where he published a good many of his small religious books; and other parts of Germany.

While at college as a very young man he "went in" for the study of "simples," but could get no help about their nomenclature from the doctors of the university. He had to worry things out for himself, and as a result of his labours, and because he wanted to improve matters, he gave the world his "Libellus de re herbaria novus" in 1538. This is a very rare little book, and is famous as being the first English botanical work ever printed. Accordingly, its publication helped to earn for its author the proud title of "The Father of British Botany." After the lapse of a good many years, during which time he was accumulating, as far as possible, first-hand knowledge, in 1551, when he was "Phisicion unto the Duke of Somersettes Grace," he published the first edition of his Herbal, of which the accompanying illustration is what I may call a Grangerised title page, inasmuch as it is never, I believe, found *au naturel* in such a perfect state, but it is always cut into by the binder to fit in with the letterpress, the truth being that Steven Mierdman had used the woodcut border in 1530 as the title page of a translation of Thucydides, and it did not exactly fit the printed pages of William Turner's Herbal.

A second part of the Herbal followed in 1562, and a third, to which were joined both the first and second parts, and also the "Booke of the Bath of Baeth in England," in 1568. Finally, the whole was reissued by the son, Peter Turner, after his father's death, with a table of errata and a quaint introduction asking the "gentle reader to beare a little with the Printer that never was accustomed to the printing of Englishe." This is the most complete edition of all.

Doubtless because he found the botanic garden at Bologna very useful, Turner made similar gardens for himself at Cologne, then at Kew, and afterwards at Wells when he settled there as Dean. It is primarily because of these gardens that Johnson accords him a place in his "History of English Gardening." "Private gardens performed no trivial part in encouraging the spirit of discovering new plants and improving their culture." There was undoubtedly room for both. Gardens, in the days of Henry VII and Henry VIII were very drab affairs as regards their contents compared with the gardens of our twentieth century. This dulness may have been one reason for the coloured railings round the beds and the tall pillars or posts with curiously fashioned beasts upon them which were such prominent features of the flower garden at Nonsuch Palace (*c.* 1538–40)



NONSUCH PALACE.
Henry VIII's super-magnificent creation. Note the flower beds and the animals on the pillars.

"Which no equal has in art or fame;
Britons deservedly do *Nonesuch* name."

It is remarkable, too, that Hentzner, as far as I can remember, when he was "doing" the sights of London and the Home Counties (?) with his young pupil in Queen Elizabeth's reign never once, as far as I can remember, records any blaze of colour. At Theobalds it was the wonderful summer-house, "built semi-circularly," with the twelve Roman Emperors in white marble in the lower room (?) and lead cisterns with water and fish in them on the top. At Hampton Court it was the Rosemary nailed to the walls. At Windsor "a walk of incredible beauty, three hundred and eighty paces in length, set round on every side with supporters of wood which sustain a balcony from whence the nobility and persons of distinction can take the pleasure of seeing hunting and hawking on a lawn of sufficient space."

I fancy in William Turner's days the most conspicuous flower in English gardens would be the rich-coloured Carnation, which, according to writings of the period, gained its scent from cloves being planted at its roots! Tales like these and those of the human form of the roots of the Mandrake received scant mercy at our divine's hands. So, beyond creating a desire for new varieties of plants, it may also be said that to some extent he was a pioneer in saner methods of cultivation, inasmuch as he had the courage to contradict many of the stupid myths and practices of a hoary antiquity. JOSEPH JACOB.

The Jerusalem Artichoke

WITH the lengthening days and brighter weather the time is once again with us when work in field, garden and allotment should be pushed forward with all speed, or, to quote the words of Mr. Lloyd George: "Every available square yard of ground must be made to produce food." Now, most soils will produce something, and by all means grow Potatoes, wherever possible; but to those with a piece of land where Potatoes, Carrots or winter Turnips would fail, the writer's advice is to try Jerusalem Artichokes, by this means securing a good crop of delicious food from ground which might otherwise be wasted. Few diseases or insect pests attack the Artichoke, which, unlike the Potato, will stand many degrees of frost; thus the tubers may be left in the ground till wanted for use, this being a consideration where storage space is limited. Planting may take place any time during the spring, weather conditions being favourable. The ground having been previously dug, heavy manuring is not necessary, but a sufficient quantity of potash salts should be present in the soil. This may be applied in the form of muriate of potash or sulphate of potash in spring at the rate of 1½lb. to the square rod, if Kainit has not been used in the autumn. Plant with a spade or trowel in rows at least 2½ feet apart, 6 inches deep, with 18 inches between the sets. During growth keep the ground free from weeds by frequent hoeings, and earth up the plants when a few inches in height. While growing, the plants form a good boundary fence or wind screen, and the tops when cut down and burnt leave a fine ash of considerable value to put on ground where root crops are to be grown. F. MARSHALL.

BROWN BETSY

PEEL, core and slice six large cooking Apples and stew them gently with a very little water and some sugar until soft. Grease a pie-dish and place a layer of the cooked Apple in the bottom thereof, sprinkle with a pinch of ground cinnamon, spread a little golden syrup over and sprinkle with breadcrumbs soaked in sherry; then add more Apple, cinnamon, golden syrup and breadcrumbs in this order until the pie-dish is full. Place tiny bits of butter on last layer of breadcrumbs and bake in a moderate oven until browned (about half an hour). If a sweet Apple is used, omit sugar.

General Work.—Advantage must be taken of all open weather so that digging and trenching may be forwarded with all possible speed. If the soil is heavy it may still be thrown up in rough ridges, so that it may be exposed to the good

HOW TO APPLY LIME

By C. A. JARDINE.

GARDENS all over the kingdom after the war were in a deplorable condition, due to neglect and shortage of labour, consequently they were rampant with disease and choked with weeds. This state of affairs no longer obtains, thanks to determined efforts, though there remains a lot to be done still in most gardens. The really urgent and crying need this winter is *liming*. The necessity is recognised by all good gardeners, but sometimes even good men do not know the proper use of lime and forget the fact that only the purest forms of lime are required, especially in disease. It is not intended to give a lecture on the subject in this article. A digest of lime in "The Soil" and in "Fertilisers and Manures," written by Sir Daniel Hall, who gives all the details better than will be found in any other work, is strongly advocated to all horticulturists. I want to impress the very great importance of *how* to apply lime, and *what sort of lime* to use. To take limestone, I do not remember having seen such quantities of harmful lime used in all my experience as in the last two years—builder's lime with from 4 per cent. to 40 per cent. of magnesia, grey lias lime, some with the last salt in excess, but others with as little as 0.40 per cent. of magnesia, yet containing as much as 8 per cent. of oxides of iron and alumina; dolomitic lime with large percentages of magnesium carbonate (substances injurious to growing active plants, especially when the lime has sunk into the soil) and various other substitutes (all constituting lime) in place of the pre-war quality of lime. Such limes applied in the winter lose most of their injurious properties by spring owing to being washed out into the drainage waters by rain. These limes fail to wipe out fungoid diseases, whereas pure limes would not fail to exterminate them. The demand by the Government for pure limes was prodigious; indeed, only the finest quality limes could be employed in the manufacture of war materials, and this forced gardeners to use any and every sort of lime, bringing baneful results in their train. The purest form of hydrated lime in existence is known by the trade name of "Limbux," manufactured from Buxton limestone but scientifically treated and hydrated by special machinery so that it is free from all injurious impurities. Mr. J. L. Edginton of Ecclesall, Sheffield, who has agents everywhere, is the distributor of Limbux. The Buxton lump limes and limestones, when in the finest state of division or dust, are most reliable, and constitute real permanent amelioration in the garden. Lime is not a fertiliser in itself, but a potential liberator of all the unavailable soil constituents directly or indirectly through the action of the useful soil bacteria. The possible exceptions to the action of lime as a fertiliser are those in the cases of plants that are not of the mycotrophic group and who store calcium oxalate in their leaves, as do most garden bulbs, especially Daffodils, which store them in the scales of their bulbs. Some species of Narcissus resent lime. It is always a puzzle to remember what plants like and what do not like lime. Here is the key to the solution, an infallible microscopic test made known, I believe, for the first time. If the leaf or bulb shows calcium oxalate (a shiny iridescent or glistening body, usually a thin, long, comet-like streak), then lime is indicated; but if absent, the subject under investigation belongs to the mycotrophic section, lime being hurtful

Lime, or dust-ground limestone should be applied only as a fine powder to the *surface* of the soil, and should never be *dug* in. An even sowing is particularly desirable, and it must be thoroughly worked into the top inch or two of the soil. The rake is the sole tool to do this satisfactorily. The action of lime is downwards, so that the rains will carry it evenly through the soil, making the earth salts evenly available and replacing the moulds and fungi which have been competing with the plants for soil constituents with the useful soil bacteria (among them azotobacter), and thus augmenting the nitric contents of the soil. The time to apply lime is now, without delay, and to follow it up in spring and summer with lime free from injurious impurities, especially to all stone fruits. In conclusion I would draw the attention of rock garden owners to limestone chippings for lime-loving alpines in place of the much-abused granite chippings, especially where certain Saxifrages are concerned.

SQUILLS AS A RAT POISON

THE sudden rise into popularity of the plant Urginea Scilla, the Squills of the druggist, as a rat poison in conjunction with barium carbonate, has directed attention to a plant which has long been growing in the Economic House at the Gardens. As "Syrup of Squills" it has long been a popular remedy in children's ailments. One could not but notice the sudden interest evinced by a class of school children who were being taken through the house. Olives, Guavas, Lychees left them cold, but "squills" was to them a household word, familiarised by its use in their own case and those of infant brothers and sisters.

The Squill plant grows wild throughout the Mediterranean region. It has a bulb and leaves like those of the Hyacinth, and a tall spike of whitish green flowers. The *Pharmaceutical Journal* of September 18th contains a very good account of the method followed in preparing the bulbs for market, from which we extract the following: "The bulbs sometimes reach a weight of 12lb. to 14lb., but are usually much smaller. There are two varieties, white and red; the white variety is that used in medicine, the red is the one preferred for rat poison. The Squills of the London market is always white and comes from Malta. In the spring the bulbs are dug up and cut transversely into very thin slices, which are placed upon clean canvas and dried for days in the sun. Great care has to be taken that the fingers are never allowed to touch them, as if touched when moist the strips lose their whiteness. No rain must fall upon them, as this discolours the strips and reduces the market value. The dried product is afterwards packed in bags for shipment."

About its effectiveness as a rat poison there seems to be no doubt, and it has an advantage over phosphorous paste and other poisons in being less harmful to domestic animals. It is said that doe rats, when breeding, are especially attracted by it, because of the fat with which it is combined.

It would be interesting to know how the use of squills for this purpose was first discovered.—*The Journal of the Royal Botanic Society, London*

Around the Markets

THOSE who bought their Holly branches last week and even earlier are the lucky ones, for then there was enough on the market for all demands; but now the general shortage of berried sprays is felt, and many would-be buyers have to go empty away. This shortage of berries has led many wiseacres to propound all sorts of theories, but the real and true explanation is the same cause that resulted in our short fruit crop; that is, unseasonable weather during the flowering period.

The scarcity of berried Holly contrasts curiously with the record quantity of Mistletoe, which is the commonest commodity on the streets at the moment, even including the many and varied mechanical toys. Mistletoe is so plentiful and cheap that a goodly sprig, bearing a dozen berries, may be bought for a humble penny—cheaper than a short omnibus ride. Most of this Mistletoe, of course, comes from Normandy and elsewhere across the English Channel. Generally, the Holly is home grown.

Other evergreens are in great demand and these include a great variety of exotics, but it is interesting to note that nearly the whole of our very few hardy indigenous evergreens are in the greatest and most general demand. Graceful trails of Ivy, particularly when the leaves have that fascinating bronzy, winter sheen, are eagerly bought. The sombre Yew and grey-green Scots Pine branches are also great favourites. Our remaining evergreen, the Butcher's Broom (Ruscus aculeatus), is also sold in enormous quantities for Yuletide decorations; but in this case one does not at first sight recognise it as a native, for the stems are dyed a bright vermilion. Before the war a great business was done with the Germans, who were past masters in the art and craft of dyeing, and they produced a good dry article of vivid colour without the use of gelatine, which makes the shoots sticky under certain conditions of temperature and humidity. Much of the dyed Ruscus seen during past years has been the product of Italy.

A great clearance has been made in the pot plant department. Azaleas, Cinerarias and Cyclamen are now present in only limited quantities. Roman Hyacinths, both in trays of a couple of dozen or so and five or six bulbs in a 5-inch pot, are pretty plentiful, but, owing to the relative shortage of other flowering plants, are dearer than just recently. Chrysanthemums, of fair quality in 6-inch pots, white Marguerites and Solanums make up the toll of plants in quantity.

Cut flowers of quality continue their upward tendency, Chrysanthemums, which are finishing, being the only exception, and these, principally "spray stuff" of so-so merit, are quite cheap. The best lines are Carnations, Liliums, Arums and Roses. Violets are short, but, even so, are equal to the demand. The scarce flowers include Lilac (white and coloured), Bouvardia, white Pelargonium and white Azalea.

In the vegetable markets there is enough and to spare of practically everything. Brussels Sprouts, of immense size and great firmness, are quite cheap—too cheap considering the quality and the length of time it takes to grow first-rate Sprouts. That being so, Cabbage is, of course, very cheap. Root vegetables are in better demand, and, perhaps because of their greater food value, people are buying more Parsnips than formerly. Jerusalem Artichokes are not so much wanted as was the case a couple of years ago, and the same remark applies, though even more so, to Chicory; and, in fact, salads of all kinds are not wanted over much, though Parsley has soared in price, but this herb is always greatly in request at this season for garnishing, and the hard weather has stopped growth. English Cucumbers and Tomatoes are practically non-existent.

Devonshire Asparagus and Seakale, making a first appearance for the season, forced Beans and Mushrooms are the only really expensive goods in the vegetable line.

The fruit trade is pretty much as before, except that Oranges are cheaper; quite good fruits are retailed at a penny and three-halfpence each. Apples continue in great plenty and so do Grapes, which will probably be unusually cheap in a week's time, if not before. Nuts of most kinds are rather dearer, but this rise will be of only short duration.

December 21. A. COSTER.

SOCIETIES

THE GARDENERS' PROVIDENT SOCIETY.

THE monthly meeting of the United Horticultural Benefit and Provident Society was held at the Royal Horticultural Society's Hall on Monday, December 13, Mr. A. Bedford in the chair. Four new members were elected. The sum of £6 6s. 8d. (interest on three members' deposits) was passed for payment. The sick pay for the month on the private side amounted to £40 11s. 8d. State section £45, and maternity claims £14. The trustees were empowered to invest a further £800. Mr. A. Turner was co-opted a member of the committee, in place of Mr. A. C. Bartlett, who has resigned. The new rules were received from the registrar for minor alterations, and the committee hope to let the members have copies early this year.

PUBLICATION RECEIVED.

"The Royal Horticultural Society Gardener's Diary." A pocket book for 1921, convenient and invaluable to all interested in gardening. Published by Messrs. Charles Letts and Co., Southwark Bridge Buildings, London, S.E. 1. Price 2s.

A HANDBOOK OF FRUITS

IN a recent number of THE GARDEN, the writer of a note upon Cotoneaster bullata referred to the confusion which not infrequently arises in gardens through the application of a name to a plant which is rightly known by another one. No owner of a garden will, we are sure, dissent from the conclusion one may draw from this complaint, viz., that it is desirable that every distinct plant should have a name and that each name should be confined to one distinct plant only.

It is by no means always easy, as another matter that has recently been ventilated in these columns shows, to say which existing name actually belongs to a particular plant. It is not always easy where wild species are concerned, still less is it easy with garden varieties of a species between which the differences are often much smaller. There are five ways of attempting to preserve the connection of a particular name with the thing it was coined to designate. Memory, written descriptions, pictures or models, dried or otherwise preserved specimens, and a living museum properly labelled. No one of these alone is ideal, and all are open to some risk of confusion. Labels, even in the best regulated gardens, become illegible or detached from the thing to which they belong (and often with the best intentions in the world attached to something else to which they do not belong), and in any case the living specimens are unlikely to show at all seasons all the characters that distinguish them; preserved specimens are often too bulky to store satisfactorily and not seldom lose in the process of preparation the finer distinguishing features that are so important to recognise; pictures, even when excellent portraits, cannot represent a variety in all its varying moods; descriptions are liable to misinterpretation unless the author is fertile in coining apt terms, precise in defining them and rigid in their application, while the interpreter must be quick to apprehend the author's meaning and to comprehend the whole of it; memory, even the memory of the oldest inhabitant, is not always to be relied upon.

Memory, tempered with discretion of judgment arising from experience of the limits of variation, is perhaps the commonest prop to depend upon when we are asked to name a variety. But too often some little detail has escaped our recollection and our verdict is at fault. Or it is faulty because the keenness of those perceptions which start the machinery which opens the cells of memory is dimmed. The "Ribston Pippin" of to-day is not the "Ribston Pippin" of our youth. That had a sweet crispness which our teeth delighted to challenge—this is tough and difficult now teeth are few; that, perhaps, had all the flavour of stolen fruit—this is but cloying to our pampered palate.

Who has not watched the learned in fruits when they sit in solemn conclave and discuss the demerits and identity of a variety brought before them? Who has not listened while one gives this name and another that, until the most learned of them all assures his fellows that the Apple cannot be anything but a local seedling? One though, diffident because wise, but still bold enough to doubt, is not so sure. Trusting less his memory, he reaches out for Hogg (his "Fruit Manuel") and from the pages of that great volume he refutes his colleagues one by one until only the most learned one is left. And him he tries to make to bite the dust by searching the "key" (which he finds therein), to discover a proof that, though once a "local seedling," in truth the fruit before him has really spread far beyond the bounds of its birthplace and become renowned over the face of the land. And perhaps he succeeds, if he be skilled in the application of the terms which describe the cells of the core and if in their endeavours to discover all there is to know about the fruit, his enterprising colleagues have left him even the core to investigate. But perhaps he goes astray and the most learned is left to say in triumph; "There, I told you so." Then they pass to another fruit and discuss it, to be assured by the most learned that this, too, is a local seedling, differing thus and thus and thus from the former, and quite distinct, being indeed an altogether superior fruit. This time, there being no more spirit left in him, the diffident one lets the matter go by default. One there is who chuckles, for yesterday evening he plucked both fruits off the same branch of the great tree of Allington Pippin planted by his father in 1896, on the day of his birth (for he is young who would dare such a thing). He knows and will quietly tell (yet not so quietly but all shall hear), how little is the alleged omniscience of the learned one to be trusted—his is but a bubble reputation and he has dared to prick it and lo! it is burst. Listen. "And the diffident one?" "Oh he is not as bad, but he, poor fellow, like Hogg, isn't up-to-date. Why Hogg" (he is, of course, not old-fashioned enough to be courteous and say Dr. Hogg's "Fruit Manual"). "Hogg was published in 1884 and Allington Pippin, Newton Wonder, Monarch, Ellison's Orange, Rival, Rev. W. Wilks and topping Apples like those never opened their hearts to him. Poor old Doubting Diffidence, he thinks there's nothing later than Bramley's Seedling, and so he went wrong, he ought, of course, to have reached out for 'Bunyard' instead. Haven't *you* seen 'Bunyard' either? Why, my dear man, it's the latest thing in descriptions of Apples and Pears and the old buffer who was discoursing so lengthily just now about 'methods of preserving connexion between name and thing,' wrote to me the other day because he knows I like to be up-to-the-minute in all that concerns fruit and said all sorts of nice things about it. Here, you'd better read his letter. 'Perhaps the most satisfactory way of ensuring the constant attachment of the correct name to any variety of fruit and of that name to the fruit to which it exclusively belongs, is the publication in an accessible form of accurate, lucid, complete in essentials, but not too lengthy descriptions. This Mr. E. A. Bunyard has given us in "A Handbook of Fruits"* of which the first volume on Apples and Pears has just reached me, and in the perusal of which I have spent a pleasant hour or two. He certainly uses some uncommon, and as some may consider, uncouth terms, such as "up-cupped," "outheld" and the like, but they are clearly explained and it would be difficult to find more euphonious epithets which would indicate the essential characters which they are intended to describe. I am glad to see Mr. Bunyard has discarded the system of classification based upon the characters of the core which Dr. Hogg made such a feature of his "Manual," and which the tyro found so puzzling, and has given a different classification, easier to use, and which, though doubtless susceptible of improvement, will serve well as a preliminary guide. I hope to see the day when the position will be even more secure than such descriptions make it, for the ideal will be to have the varieties growing together for any enquirer to see and compare them. The Royal Horticultural Society has made a good start towards this at Wisley and if the planting there can be continued, and I hope funds sufficient will be forthcoming to permit this to be done, and this planting be supplemented by accurate records and the help that good illustrations such as those to which Mr. Bunyard refers in his descriptions and which can be consulted in the R.H.S. Library at Vincent Square, we shall be well on the way to a better knowledge of fruit and to avoiding the annoyance of re-naming of fruits causes. A feature of Mr. Bunyard's book is the attention he gives to the habit of the tree, a matter of great importance to the market fruit grower, as well of value as a diagnostic character; and another feature in the care he takes to accredit the variety to its real source; sometimes, indeed, he is so engrossed in his interest in this courteous and historically desirable aim that he forgets to give us his candid opinion upon the merits of a particular variety as for instance on "King of the Pippins," an excellent Apple in many ways, but a little too dry for my palate, wherein Dr. Hogg's estimate and my own are at variance. I am telling you these things, my dear fellow, as though you could not discover them for yourself, and indeed, it is probable that you have already done so, but I like to praise the best when I see it. I could wish, however, although I daresay you will put it down to an old man's fastidiousness, that Mr. Bunyard had got some one to read the proofs of his admirable book for him, for there are a good many slips in the spelling of names and if I may judge from the interesting notes upon nomenclature which I have seen from his pen from time to time, I feel sure they will annoy him as much as they do me. The correction of these is generally largely in the hands of the printer's reader and it is somewhat of a pity that he has been caught nodding so often.' You see, old bean, the old buffer thinks a lot of it and—you'd better buy it. Ta! Ta!"

* *A Handbook of Fruits: Apples and Pears.* By E. A. Bunyard, F.L.S. 205 pp. sm. 8vo. (John Murray, London, 1920). 7s. 6d. net.

Apple King of the Pippins

THIS old favourite and ever-sought-after variety has proved a come-to-stay Apple, although critics have claimed it as the once Golden Winter Pearmain, and it was noticed by Ray in 1688; but whether it is so or not, I am convinced there is more than one variety of the above sort and am well aware that stock influence may account for the fact. The King of the Pippins is known and grown in every part of the British Isles and is as consistent a bearer as an Apple can be. No forms or systems ever adversely affect its cropping propensities, and for town gardens it is immensely satisfactory. In season from November to March, the fruits are crisp and of good flavour.

GEORGE LOVELOCK.

A Novel Way of Training Peaches and Nectarines

IT was my good fortune to be able to spend a few hours in the noted gardens of Mr. Christie at Framingham Manor, near Norwich, recently, and although the beauty of the flowering trees and shrubs was over, the Magnolias, Rhododendrons, Philadelphus and many other choice subjects were pictures of health and gave evidence of a great treat for 1921. But it is of the training of the Peaches and Nectarines on the front of the fruit house that I want to make a special remark. It appears that the ordinary fan-trained trees on the front and part of the roof of the house were a deterrent to good sets of fruit on the back wall, so it occurred to the ingenious gardener, Mr. Samuel High, that to construct a span trellis in front of each main stem and then tie the branches to this would let in light and give more space. They form practically little fruit bowers. It is a great success

THE GARDEN

No. 2564.—Vol. LXXXV. [January 8, 1921.

NOTES OF THE WEEK

LAST week our issue was specially devoted to the revival in the cultivation of annuals and the restoration of the flower garden. In no hobby or profession is it so necessary to look well ahead and make plans for the future as in gardening, and the wise gardener knows better than to neglect this important task. With this thought in mind our next issue will be chiefly devoted to plans for the right use of annuals. Recognising as we do the necessity for the cultivators of flowers, fruits and vegetables, to have the best information possible, we shall publish from time to time special articles by writers of wide practical experience. Every department of horticulture is represented in THE GARDEN, and the Editor invites readers to express their views on gardening matters and send in questions upon which they wish advice from acknowledged authorities. Gardening, of all arts and hobbies, lends itself to mutual co-operation. We hope, therefore, that readers also will give enquirers the benefit of their knowledge and experience.

Philadelphus Mere de Glace.—The spray, illustrated on the front cover of this issue, was cut from a beautiful Mock Orange with large double white flowers, borne on long slender shoots of graceful arching habit. For cut-flower work it is most valuable, but should be of sufficient length so as to retain their naturalness. With fresh open flowers and a fair proportion of buds it makes a lovely vase study and, like all the double varieties, lasts longer than the singles, which droop quickly. Boule de Neige is a similar variety, but has much larger flowers, though less numerous. Among the many kinds of Philadelphus growing at Grayswood are one or two very fine varieties of grandiflorus, one has blooms of very large size in trusses; another, though large flowered, has fewer on the shoots. There is also a fine bush of P. hirsutus, the flower solitary and very pretty, but of no value for indoor decoration. The name Mère de Glace was taken from the garden register kept by the late Mr. Chambers, who was most particular in recording the names and interesting matter concerning the many rare and beautiful trees and shrubs planted by himself in the gardens at Grayswood, Haslemere.

Hypericum repens.—Between H. repens and H. reptans there is apt to be confusion, and the species which bears the latter distinguishing title, being the better known and the finer plant of the two, is liable not only to outshine the subject of this note but to supplant it. Thus if one asks a dozen average amateur rock gardeners if they have got H. repens, nine or ten of them [illegible]. The former is a fine-leaved, Heath-like creeper with green foliage, without a shade of glaucous hue visible to the ordinary eye. It is a moderately vigorous grower in warm, free soil, sprawling about much like an alpine Phlox, but instead of bearing its flowers on these prostrate, woody trailers, it shoots up erect flower-spikes to a height of 8 inches or 9 inches. The flowers, which open in succession, several at a time, are about 1 inch or more in diameter and of a rich yellow. H. repens is easily propagated, all that is necessary being to snap off a few of the creeping branches in the later summer and lay them in on a cool, shady border. They will strike like Willow.—A. T. J.

A Flower that Likes Shade.—The Rose of Sharon or Hypericum is one of the few flowering plants that will thrive under the shade of trees. It will make a dense crop of greenery over the ground right up to the tree trunks. In recent years a number of new shrubby Hypericums have been introduced, one of the very best being H. patulum Henryi, named after Professor Henry, who introduced it into this country from China. It is an excellent subject for English gardens, being perfectly hardy and flowering well in half-shady places. [illegible] are bright yellow 3 inches or 4 inches across. The first flowers in my garden opened last July, and the plants have only just finished blossoming after being beautifully in flower for quite ten weeks. One of the charms of the shrubby Hypericums is that they flower when comparatively few shrubs are in bloom. In order to increase these plants cuttings should be taken now and dibbled into pots of sandy soil in gentle heat.—H. C.

A NEW ROSE OF SHARON (HYPERICUM PATULUM HENRYI).

Rose Dorothy Perkins.—This charming pink Rambler Rose will spread its branches over a trellis or fence or grow as a weeping standard, and in either form it provides a picture of beauty. The illustration on page 19 demonstrates in a remarkable manner the decorative and free-growing properties of this Rose, and at the same time proves its suitability for covering a house. The general system of pruning the Wichuraiana Roses, to which group Dorothy Perkins belongs, is to, each year, as soon as the blooms have faded, cut out the old flowering rods and retain those young ones that are always produced from the base of a healthy plant; but evidently this may be modified, as much of the old wood has been retained in the plants shown in the illustration.

A Useful Berried Shrub.—At this season of the year any berry-bearing plant is very useful either for decoration in the house or garden. Ruscus aculeatus, the common Butcher's Broom, is one of the most useful for this purpose; its large red berries are very conspicuous. It will thrive in almost any position and is an excellent subject for planting under trees; being dœicious, it is essential that one or two male plants should be mixed with the berry-bearing one.

Action Against Glasgow Corporation.—A case of considerable importance to corporations and other public bodies owning botanic gardens is at present before the Scottish Courts. Some children were in the playground of the Glasgow Botanic Garden, which adjoins the enclosure for plants for botany students. They picked some berries from a plant in this enclosure which proved to be Atropa Belladonna, and several became sick, one dying next morning. The father of the boy who died brought an action for £500 against the Corporation of Glasgow, but the Judge in the Outer House dismissed the action. The Inner Division has recalled his decision and approved of the issue for a trial by jury. Lord Salveen was of opinion that the Judge in the Outer House was right, but the other three Judges took the view that the case should go before a jury.

FORTHCOMING EVENT

[illegible]—The Royal Horticultural Society of Worcestershire

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

IONOPSIDIUM ACAULE.

I HAVE lately been struck by the attractiveness of this little plant in the rock garden at Wisley. The clear, violet tinged blue of its numerous flowers is particularly effective at a time when there is little to break the monotony of the season. On a misty December morning two plants stand out pre-eminently—Cheiranthus Allionii, glowing like a beacon from a prominent rock, and a group of the Violet Cress lighting up a quiet corner with a constellation of little stars. Two other points in its favour are its hardiness and the ease with which it can be moved. We recently had 53° of frost in three days (two of 20° and one of 13°), but when it was over the stars were still shining. A plant in full flower may, if desired, be moved to a more effective position and it will not notice the difference.—A. E. S

BOTANY FROM A CHAR-A-BANCS.

I AM interested in "Somers'" "Botany from a Char-à-Bancs" in your issue of December 25, 1920. West Cornwall is not the best part of the Duchy for wild flowers until you get to St. Erth, where wild Columbines abound in the railway cuttings and Cowslips star the fields to St. Ives. Between Truro and Newquay the flowers are wonderful. I know a wood where Orchis and other native flowers follow one another through the year in profusion, and where Osmunda and other Ferns luxuriate. The hedges between Truro and Newquay on the quieter parish roads are covered with wild Roses. In East Cornwall the Primroses grow in profusion, and on the slopes below Boskenna, not far from Lamorna, they cover the ground. Wood Anemones grow on bleak Castleandinas, above Gulval, Penzance—much as the Sea Pinks do on the Scottish mountains—without rhyme or reason. I should like "Somers" to see the Burnet Roses on the cliffs at Watergate, near Newquay; but as I am writing entirely about spring and summer flowers and he about autumn, I feel I must not further trespass on your time.—FRANCES BOLITHO, *Trewidden, Buryas Bridge, Cornwall.*

TULIP TREES.

THE note on the Tulip Tree at Sidholme, Sidmouth, in THE GARDEN, December 11, 1920, page 608, did not give a fair idea of the size of this remarkable specimen. There are two at Cobham Hall, Kent, which, if not the largest, are among the largest in Britain. They were planted late in the eighteenth century or about 1780. They are approximately 70 feet high, but are not equal to the Sidholme example in spread of branches or so floriferous. It is quite hardy in the north, given a sheltered site. One at Linnburn Gareloch on the Clyde, planted about 1860, is now, I understand (though some years since I saw it), approximately 40 feet high and very healthy. Another remarkable example still survives at the Friary, Aylesford, but is decaying. Its age is said to be quite 200 years. There were some remarkable Tulip Trees in Windsor Park, near Cumberland Lodge, but have just been informed by a native that one of the finest has disappeared. The Liriodendron is somewhat difficult to transplant; nursery examples often fail through inadequate preparation when planting. Its timber is valuable and is commonly known as American White Wood.—HURSTCOT.

BLUE LEGS.

WHILE Mushrooms generally have been very scarce this autumn, in Gloucestershire the crop of the Mushroom locally known as Blue Legs (Agaricus personatus) has been enormous. The shops which deal in them have had their windows full for months past. These Mushrooms are very popular with the working classes, and are consumed in great quantities. There is certainly a prejudice against the Blue Leg, and plenty of people will not eat them, but its somewhat peculiar flavour has a great charm for others. One man's meat is often another man's dinner, and a great admirer of this particular delicacy told me he could get nothing else that so nearly resembled fried kidney. This Mushroom has an attractive appearance when young and fresh. Its cup is like a white kid glove, the gills pale brown and the thick stems stained with violet. This colouring is much more pronounced in some specimens than others, sometimes developing into regular violet purple stems. As it grows older it becomes of a uniform pale brown colour not very appetising to look on. It is largely used for making ketchup.—J. P.

THE GOLDEN CHANTARELLE.

You like the Mushroom passing well,
But I, with dauntless courage cry
"Give me the Golden Chantarelle!"

When, summoned by the breakfast bell,
Most fragrant odours wander nigh,
You like the Mushroom passing well.

I plead, although you strive to quell
This passion of my tongue and eye,
"Give me the Golden Chantarelle."

You can the fruiterer compel
Your small requirements to supply—
You like the Mushroom passing well.

Though tempting fruits he hath to sell,
He cannot help me when I sigh
"Give me the Golden Chantarelle!"

So I, and hence this vilanelle,
Must gather fungi while you buy.
You like the Mushroom passing well—
Give *me* the Golden Chantarelle!

GLADYS ECHLIN.

THE HARDINESS OF BUDDLEIA ASIATICA

I SEE that enquiries are made as to the hardiness of Buddleia Asiatica. The Riviera has just been visited by a very sudden and severe frost, as much as 7° and even 9° below freezing. In consequence untold damage has been done and nothing survives that is not hardy. Buddleia auriculata is untouched, but B. asiatica is killed to the ground, as is the case with nearly everything, so clearly B. asiatica cannot be recommended to planters in England. Of all the host of beautiful winter-blooming Salvias the old Salvia coccinea is alone untouched, and S. Chamædrifolia which clothes the stem of a Pritchardia Palm has the ends of its shoots killed, but the flowering shoots most in shelter have escaped. Travellers who come out this winter will find the gardens bare, and the Eucalyptus, Orange and Lemon trees all more or less injured or the foliage destroyed. It is sad to see the wreck of the market gardens, which must cause much suffering to the growers. What almost makes the visitation more annoying is that the cold wave hardly lasted twenty-four hours!—E. H. W.

THE EPIMEDIUMS IN WINTER.

THE Epimediums, or Barrenworts, have numerous charms in spring, when their prettily formed and coloured flowers adorn the plants, but they are not devoid of charm in winter when the beautifully shaped and arranged leaves are so finely tinted with bronze. At this time they come in well for mingling with cut flowers, and even later, when the Snowdrops are in flower, a few of these arranged among the Epimedium leaves make a pretty table decoration when many other things are unobtainable. All the Barrenworts are valuable for this, but the large leaved species, such as the yellow-flowered E. pinnatum and E. perralderianum are specially valuable because of their more robust growth and larger leaves. It is only fair to say, however, that the culling of the old foliage is rather detrimental to the flowering of the plants in spring and that the tender young leaves at that season run greater risks of being injured by spring frosts than when the old foliage is left on as a natural protection. But we cannot have everything and we must balance the question of winter leaves and spring bloom. We may have plants enough for both. By the way, the Epimediums are good shade-loving plants and do well under deciduous trees.—S. A.

SPARTIUM JUNCEUM.

THE useful cultural notes on the Spanish Broom, or Switch Plant, by Mr. Leslie Greening (page 609) prompt a remark or two from one who has so often seen it growing in its native arid home on the Mediterranean seaboard and foothills adjoining. A very widely spread Southern European shrub, it extends in France as far north as Lyons, and is found in Western Asia, in North Africa and as far west as the Canary Isles. But what I want to emphasise is its strange time of flowering in cultivation in the South of England. Mr. Greening mentions that it remains in bloom for a very long period from July "almost until autumn." I have sometimes seen it blooming until well after Christmas in Sussex, Somerset and elsewhere. A week ago a bush was in full bloom in the boys' gardens at Sidcot School, Somerset, and another at Clifton. But in the South of France and in Italy its time of flowering is from May to July. Why is this? It reminds one of other plants imported into England which blossom *earlier* than in their warmer and drier native land. But in the case of Spartium the flowering is late, very late. I can offer no explanation, but should like to know if the curious structure of this plant is not the cause? On the French and Italian Riviera its almost naked, Rush-like branches have a few small, simple, deciduous leaves which persist only a short period in the spring. Later and during the remainder of the year the twigs are bare, and the cylindrical shoots look like the leaves of a big Rush (hence its Latin name junceum). It is one of many plants of hot, dry countries which substitute for the tender tissue of a leaf some tougher organ supplied with chlorophyll which is better able to resist the sun. Among such plants may be mentioned the Butcher's Broom (Ruscus), which has flattened branches, or cladodes, instead of leaves; the Opuntias and Cacti; many Acacias, which have only phyllodes; and the beautiful blue Aphyllanthes. The tendency in dry, hot countries is for the leaves of most plants to be small and narrow, and especially are those of the woody ones often reduced to mere spines or needles. The leaf of a typical Mediterranean shrub cannot do as much work for the plant as an ordinary English shrub during the same period; but this is compensated for by the

instead of during the summer months only. The leaves of many Southern European plants are evergreen and of close texture, with a thick water-tight covering which protects them from too great loss of water by evaporation. But Spartium and Calycotome, a very spiny leguminous shrub often growing with the former in the maquis (dense thickets of shrubs, mostly evergreen, well known in Corsica and Provence) have green stems which do the work of leaves during the winter. I have never noticed if the small linear leaves of Spartium are more developed in England and whether they remain longer before falling. The large yellow flowers are curious in their mechanism for fertilisation. The lower petals, united into a keel, are furnished with a special spring, which is such that under vertical pressure, *e.g.*, the weight of a bee, the keel suddenly drops and the pollen is thrown into the air. In Italy, at Pentecost and certain other feasts, newly gathered flowering shoots of S. junceum are sometimes strewn on the pavement where the processions pass. —H. STUART THOMPSON.

YELLOW SPANISH BROOM AND A HYBRID CLEMATIS.

A NOTE of well deserved praise of the Yellow Spanish Broom was lately given in THE GARDEN (page 609) but there is no mention of the size of the most fully grown specimens. A plant here (South-west Surrey) has shot up to a surprising height among some Hollies, and every year, as it grows older and taller, appears to be fuller of bloom. It has now attained a height of 19 feet. A plant of the hybrid Clematis (Vitalba × Davidiana), that seems to come spontaneously in other gardens as well as in mine, runs up into it, and the masses of whitish bloom, some of them wreathing the Broom and some the Holly, put the whole thing together into a charming picture.—G. J.

GENTIANA PNEUMONANTHE.

I HAVE been much interested in the correspondence relating to this, one of our most conspicuous wild flowers. It is some years since I found it throwing up its lovely blue flowers above the Heather at the back of Bournemouth and on visiting the same spot a year or two later still found it there. My dried specimens mostly have single flowers, but one has two flowers on the stem. Although so close, I cannot hear of any plant being found in the Isle of Wight. It is interesting to learn that it is found in so many counties on the mainland.—C. ORCHARD, *Smoglands Cottage, Bembridge, Isle of Wight.*

COTONEASTER MICROPHYLLA GLACIALIS.

APROPOS of the notes on the Cotoneasters, I have here a rockwork mound practically covered with this one. Unfortunately although it flowers well here, it never fruits, and this is a great disappointment. The mound presents every variety of exposure, but neither in sun nor shade, nor even in partial shade does this species fruit. C. horizontalis beside it always fruits very freely. Yet I would not like to be without C. congesta (for such I prefer to call it rather than by the cumbrous name which is its correct designation), which is pretty at every season by reason of its habit and small leaves, but is especially pleasing when it is freely starred with its myriads of little flowers, which, in my form are white, not pink, as on some plants It is then particularly pleasing. It is a good plant for covering a mound as its prostrate branches soon root as they grow along.—S. ARNOTT, *Dumfries.*

PETASITES ALBUS.

WHEN the flower heads of Petasites albus are favoured in the early part of the year with somewhat open weather their expanded white flowers make a fine show. I knew one place where a large number of spikes adorned a sloping bank bordering the woodland. Snowdrops also found a place on the bank, and the combination was quite good, as both were in bloom together. One year a fine start was made by the Petasites in January with every promise for a good display of flowers; but, alas! the weather conditions in the following month rather upset these early expectations, many of the flowers being spoiled. Petasites albus, the white-flowered Butter Burr, is evidently not a native, but the Rev. C. A. Johns in his "Flowers of the Field" points out that it has become naturalised in shrubberies in Scotland.—D. ARMSTRONG.

THE HYBRID CLEMATIS (VITALBA × DAVIDIANA).

WATER LILIES AND TABLE DECORATION.

OF late there has been a vogue for pulling the heads of flowers off their stalks and floating them in bowls placed on the table. It is a practice that strikes one as more infantile than Bolshevist. It may be fashionable, but is, nevertheless, in artistic, and it can never appeal to any true lover of plants for there is great beauty not only in the flowers themselves, but also in the stem branches and leaves; further, the natural poise of the blossom and its surroundings add much to its loveliness and grace. A short time ago an illustrated description appeared showing how Dahlia flowers were to be decapitated and floated in a bowl, when, it was stated, they would resemble Water Lilies. It is strange that there should be people who desire to make a Dahlia resemble a Water Lily; but, then, there are those who clip a dog's coat to make it resemble a lion, or carry a monogram on its back, and whose one slave is fashion. The mention of the Water Lily brings me to the point. In a little cement tank that I made, is the Nymphæa pygmæa, and this was a pretty feature of the garden last year. The flowers are only about 1½ inches over, and the petals are as white as driven snow, with a rich orange centre. The leaves are only about 2 inches across, and the whole plant, which flourishes in a small pot standing in water 4 inches in depth, is but 1 foot in diameter. This pigmy Water Lily could well be placed in one of the inexpensive black lustre Sussex ware bowls, or in a Chinese one, the latter being most appropriate, as China is the little plant's native home. It is also found in Siberia and is one of the hardiest of all the Nymphæas and one of the first and last to bloom. Mr. William Robinson points out in "The English Flower Garden" that they have strange ways as to opening and shutting. With me the blossoms of N. Pygmæa have sometimes opened in the evening and have remained open whether the day has been bright or dull. These small Nymphæas could be grown outside, or in the conservatory, in pots plunged in water, and placed in a suitable bowl for the table when in full flower; the beauty of the plant as a whole could then be seen and enjoyed, and it would grace any feast.—H. H. WARNER.

EARLY POTATOES.

I CAN confirm "J. J." (page 522) that baked Potatoes were a very old, if not the original English way of eating them. John Gerard in his herbal (1597) describes Potatoes of Virginia as "a food, as also a meate for pleasure, equall in goodnesse and wholesomenesse unto the same [Sweet Potatoes], being either rosted in the embers, or boyled and eaten with oyle, vineger, and pepper, or dressed any other way by the hand of some cunning in cookerie." If the people of Cornwall do not grow "two crops of Potatoes on the same ground in one year," they could very easily do so; but I think it would pay them better to plant their Broccoli after Potatoes, and supply our markets in winter at a time when we cannot compete with them. Two crops of Potatoes on the same ground have been repeatedly grown by Mr. Sands in Ireland. On July 16, 1918, I planted old sets of Midlothian Early and King Edward VII on ground from which I had dug Witch Hill, and this second crop was more than twice as heavy as the first. The reason for this was due to severe drought in May and June. I planted some on August 12, but an early frost cut down the haulm, and the tubers were rather small. In the course of two short chapters on Sweet Potatoes and Potatoes of Virginia John Gerard used such spellings as Potato, Potate, Potatoes, Potatus and Potad[illegible]. The [illegible] a variant upon the phonetics of Batata, Battata and Batatas. The Spanish rendering wa[illegible]

THE SWEET BRIAR OR EGLANTINE

THIS PRETTY WILD ROSE MAKES ONE OF THE BEST INFORMAL HEDGES FOR THE GARDEN.

OWING to the courtesy of Mr. Newman Blowers, the Literary Director of Cassell and Co., Limited, I am able to quote largely from Professor Hulme, F.L.S., F.S.A., on this delightful subject. Rosa rubiginosa is common all over Britain in bushy places, on a dry, gravelly soil; from its extensive diffusion it has been subjected to many changes in external character and, as a consequence of this, has received a great variety of names. The Austrian Briar is very closely allied to it, and from this the most brilliant yellow Roses are produced. They require a moist soil and dry, pure air, and not severe pruning. Few of our wild plants are more enduringly attractive, for it not only possesses all the beauty of form, fragrance and colour, that gives so great a

SWEET BRIAR OR EGLANTINE IN FRUIT.

charm to the other species of wild Roses that grace and form our hedgerows, but adds to these a fragrance of foliage that is all its own. It makes a very beautiful hedge and, planted with alternate plants of Privet and kept closely cut, forms one of the best hedges for gardens and shrubberies. The Sweet Briar yields its sweetest, tenderest perfume after a shower. What a rare debt of gratitude we owe to Lord Penzance for introducing the hybrids that we now call the Penzance Briars, larger than the ordinary yet charged with all its sweetness. Most readers will have made the acquaintance of the common Sweet Briar even in childhood, for there is scarcely a cottage garden that does not boast a shrub or bush of it, and, like the Foxglove and Snowdrop and many other plants, it pays a certain price for its hold on popular esteem, for it is rarely allowed to remain in its native habitat. Not only do we delight in its early summer blossoms—a so much deeper pink than its wild cousins of the hedgerow—but welcome its glowing red berries in the autumn to mix with dried Ferns and autumn-tinted leaves. Under the older name of Eglantine we find its praises sung by the poets and by many of the great ones, too. The botanist may, possibly, in his analysis and dissection, run some risk of losing the sense of the living beauty of the flowers that he demolishes in his search after structure and systematised facts, while artist and poet, less concerned with technicalities and often really ignorant of much that is wonderful in the adaptation of means to ends, do nevertheless, by a few touches, picture to us this living beauty. How charming are the lines of Shenstone:

"Come gentle air! and while the thickets bloom

* * * * * *

Convey the Woodbine's rich perfume
Nor spare the Sweet-leaved Eglantine."

In Spencer, too, we read: "Sweet is the Eglantine"; and Drayton calls it "Sweetest Eglantine." Shakespeare introduces the two plants, Honeysuckle and Sweet Briar, thus in his description of a bank:

"Quite over-canopied with luscious Woodbine,
With sweet Musk Roses, and with Eglantine."

So that long before Milton, who rather made a muddle of things by introducing the plant in one of his familiar passages, not only by its two names but as though two distinct flowers were intended:

"At my window bid good morrow,
Through the Sweet Briar or the Vine or the Twisted Eglantine."

In another well known passage of Shakespeare the sweetness "of the leaf of Eglantine is Whom not to slander, out sweetened not the breath."

HIPS OF ROSA MOYESII, ONE OF THE FINEST OF THE SCARLET FRUITED SPECIES.

With Keats it is "the Pastoral Eglantine" With Mant "The fragrant Eglantine":

"Nature scattered free, and wild
Each mountain flower, the mountain child,
Here Eglantine perfumed the air,
Hawthorn and Hazel mingled there."—Scott.

The Sweet Briar was one of Scott's favourite shrubs, and not long ago this interesting fact was

THE BOTTLE-SHAPED HIPS OF ROSA SETIPODA.

brought to light in one of his letters—the note in question was written by the great poet himself—from Edinburgh to William Laidlaw, his friend and agent at Abbotsford, soon after that property had come into his possession, in one part of the letter he says: "You must get someone to stick in a few wild Roses, Honeysuckles and Sweet Briars in suitable places, so as to produce the luxuriance we see in the woods which Nature herself plants. We injure the effect of our planting, so far as beauty is concerned, by neglecting underwood." We find in the account sent in that "the few Sweet Briars" numbered 2,000! The fragrant odour of the foliage is itself so distinctive that no lengthy description is needed. The Sweet Briar appears to delight in open spaces and copses, though sometimes we find it among the mass of plants that crowd on each other in some old hedgerow; it revels in a chalk soil, and its delicate blossoms spend themselves in beauty and sweetness during June and July. Like many other plants and shrubs, the Sweet Briar was in the "good old times" accredited with medicinal virtues, and many of these remedies date as far back as Pliny. Subsequent writers adopt them without question — contenting themselves with adding, "As Plinie sayth."

The Briarwood pipes often used by smokers are made not from the wood of our native Sweet Briar, but from that of the tree Heath (Erica arborea). The wood comes from the South of France, and our English name is a corruption from the French word for Heath bryuère. The specific name is the feminine

rusty, a good deal of brownish red tint being often found on stems and foliage, which are in botanical parlance, rubiginous. One more verse from the poets on this common joy, this world-wide delight and possession.

* * * * *

"The fragrance deepened through the passing shower,
An aromatic perfume filled the air,
The wild Sweet Briar shed incense on the morn,
Breathed from its foliage essence rich, and rare. H. C. P.

The Newer Chinese Roses with Beautiful Fruits

A NUMBER of the Wild Roses of China introduced to our gardens by Mr. E. H. Wilson are still attractive with brightly coloured hips. This winter they are on the whole more ornamental than the varieties of Rosa canina, R. alpina, R. macrophylla, R. rugosa and other notable fruiting Roses, but this may to some extent be due to the bushes being young and vigorous. In the shrubbery borders and other places there is much to interest and attract garden lovers among the Chinese Rose species. The fruits, differing in size, shape, colour and arrangement, are interesting when closely examined and prominent at a distance in the sunlight. The foliage of R. Willmottiæ and R. omeiensis, to mention only two, have graceful, one might almost say Fern-like, leaves. The thorns of others claim attention, the most prominent of all being R. omeiensis var. pterocantha with richly coloured giant spines.

R. Davidii has large red fruits freely borne in fascicles, one counted bearing twenty-seven fruits. It is a large bush, at present 7 feet high. The variety elongata, as the name suggests, is distinguished by unusually long hips. R. Sweginzowii is a tall and graceful bush 9 feet to 10 feet high, brilliant with large red fruits. R. setipoda is another tall-growing species from Western Hupeh. The fruits are bottle-shaped, about an inch long, and rich dark red in colour, freely borne on the elegantly arching bushes, as the illustration suggests. R. Moyesii is very well known for its striking dark red flowers. It has also a very attractive fruit, not so freely borne as some, but large, bottle-shaped, and rich red in colour. R. Soulieana has been in cultivation since 1899. It is a very robust bush, attractive in the shrubbery border and useful as a tall, informal hedge. The orange fruits are abundantly borne in branching corymbs. The dainty R. sertata, a wide spreading bush, graceful in foliage and flower, is also conspicuous with oval, red fruits about three-quarters of an inch long in autumn. There are several forms of R. omeiensis, the four-petalled wild Rose of Mount Omi. In one the fruit is red with a yellow thickened stalk (Pear-shaped), and in another the colour is a dark velvety crimson. It is one of the first to ripen its fruits and, abundantly borne, they are very attractive among the Fern-like foliage. The variety pteracantha is very conspicuous with its giant dark red spines.

GENTIANA PNEUMONANTHE

By JAMES BRITTEN, F.L.S.

[The wide interest which has been shown in this beautiful plant by numerous correspondents leads us to think that some account of the various aspects which its history presents may be acceptable to the readers of THE GARDEN.*]*

THE Name.—The name Gentiana Pneumonanthe was given by Linnæus in the first edition of his "Species Plantarum" (1753), and the plant is happy in having never obtained any other, so that the questions of nomenclature, which often lead to wearisome controversy, do not arise in connection with it. It appears to have been first applied to the plant by Cordus, who in his "Historia Stirpium" (1561) heads the chapter devoted to it, "De Pneumonante, id est Lungenblüme." His description begins with "Pneumonanthes," and it would seem that the name should have been adopted in that form. Why it was given it seems impossible to discover: Cordus himself does not tell us, and the plant is not stated to have been employed in lung diseases. The German name, as given by Cordus, appears to be a mere translation of the Latin, which, as "Lung-flower," has found place in English books. In these, Pneumonanthe has various names, but none have been or are in actual popular use, unless "Harvest Bells," which Gerard says it is called "of some," were so. All the so-called "English names" are translations: the most interesting of these is "Calathian Violet"—a translation of Viola Calathiana. This latter occurs in Pliny (Natural History, book xxi, chapter vi), but its application there is regarded as uncertain. Ruellius, however ("De Natura Stirpium," 1536), who adopted part of Pliny's description, certainly applied the name to our plant: he calls it "Calathiana," and explains the name in his reference to its flowers as "calathi similitudine" their resemblance in shape to a wine-cup is noted by Gerard who says they are "like a cup called a beake wide at the top and narrower toward the bottome." Ruellius's description has also been considered ambiguous, apparently because he describes the leaves as "violæ albæ non dissimile"; this has not unnaturally been understood as referring to the White Violet, but the reference is explained by Gerard's translation of the passage. It will be remembered that the name "Viola" in those days was very widely applied, and included Stocks and Wallflowers. The translation is pretty enough to be worth quotation: "Calathian Violet is the gift of Autumne: the other violets are of the spring: it hath, saith he (and that truely) a little leafe, not unlike to that of the small stock gilloflower. The flower is like a little bell cuppe, of so beautifull a colour, that it passeth the very blewe it selfe." Dodoens (1563) heads his chapter "Calathiana Viola," which Lyte in his translation (1578) renders "Calathian Violet," a name which since that date has been in general use. Another book-name—Autumn Bellflower—is a translation of Campanula autumnalis, which was applied to the plant by Dodoens.

DOROTHY PERKINS RAMBLER ROSE. *(See Notes of the Week.)*

The Plant.—The first description in English is that of Henry Lyte in his black-letter "Niewe Herball" (1578)—the translation of Dodoens just referred to. It runs thus: "Of Autumn Belfloures or Calathian Violets. Amongst all ye kindes of Belfloures, there is none more beutiful in colours then this: it hath small straight Knottie stemmes, & at every Knot or ioint it hath two leaves set directly one against another, whiche be long & narrow: by each side whereof, as also at the top of ye stalke, groweth forth pleasant floures, whiche be long & hollow, alwayes bending outwardes like to a small long bell, with two or three small white threedes in the middle. They

are of a blew colour, so cleare and excellent, that they seeme to passe the azured skies. When they are past, there cometh by in the midle of the floure a round long huske, full of long small seede."

As will have been seen in the various communications published in THE GARDEN, G. Pneumonanthe varies considerably in size and habit. In the large series of specimens in the British collection at the Natural History Museum the average height is from 6 inches to 9 inches; one or two exceed a foot, and there is a curious little dwarf form, barely 2 inches high, with one flower, from Gunton in Norfolk. The stems are mostly one-flowered and simple, but some have two to four flowers and in one or two examples are branched.

Beautiful as it is, however, the British plant bears no comparison with some of the Continental forms as represented in the European herbarium, either in height or in the number and size of the flowers: specimens from Leipzig, for example, are about 2 feet high, with flowers 2 inches long, extending up the stem for nearly a foot and clustered in a head at the top of the stem. The leaves also vary greatly in width, leading up to what has been described as a var. latifolia, in which they are sometimes half an inch broad. A white-flowered form from Parkstone, Dorset, is in the British Herbarium already referred to, but this appears to be rare, as I find no other example either among the British or Continental specimens; Clusius, however (1601), mentions that he found it near Bruges. Mr. Boulger tells me that he found it with pink flowers between West Chiltington and Storrington, Sussex.

The dates at which the British specimens were collected range from the end of July till October, most of them being in August: Stillingfleet in his "Calendar of Flora made at Stratton in Norfolk anno 1755" mentions having found it in flower on July 2. The plant, though nowhere very common, occurs in most English counties and is found in Wales (Anglesea), but not in Scotland nor Ireland. It was first recorded by Johnson in 1633: "This plant I never found but once, and that was on a wet Moorish ground in Lincolnshire, 2 or 3 miles on this side Caster [Caistor], and as I remember, the place is called Netleton Moore." The locality has somewhat special interest for me, as it was on Nettleton Moor that I saw it for the first time, in 1862. The earliest localised specimen I have seen is that in the Duchess of Beaufort's collection in the Sloane Herbarium (vol. 135, fol. 8) from "the heath by Tunbridg Wells"; this locality is given in Blackstone's "Specimen Botanicum" (1746), but the plant must have been collected a good deal earlier, as the Duchess died in 1714. Near London it was found by various collectors on Hounslow Heath at dates between 1795 and 1800, but the heath itself has long since disappeared. The plant, however, seems to have the power of resisting adverse influences: I was surprised to find it in quantity in 1879 on Runcorn Common, among blackened heath but little other vegetation, which indeed for a considerable distance round Runcorn is seriously affected by the fumes from the chemical works. Although not often met with in gardens, it has been long in cultivation; there are specimens from Chelsea Garden in 1760 in the Herbarium of the Natural History Museum.

The Figures.—The earliest figure I have found assigned to the plant is that in Dodoens, reproduced by Lyte in his translation the "Niewe Herball," already mentioned. This, if correctly referred, as I think it is, for the shape of the flowers is characteristic, represents an unusual state; it has leafy branched stems and numerous flowers, thus differing greatly in appearance from the usual form. The figure most usual in old books is that given by Johnson in his edition of Gerard (1633). The history of this is somewhat puzzling. Jonathan Stokes—whose invaluable and too little known series of references to herbal figures renders important the second edition of Withering's "Botanical Arrangement" (1787) which he edited—states that this originated with Clusius, from whom were derived most of the figures of Gerard and Parkinson. His reference runs: "Clus. i. 313. 2. repr [inted] in Lob. obs. 166. 2. Ger. em. 438. and cop [ied] in Park. [Theatrum] 406. i. and H. ox. xii. 5. 12." But Clusius' "Rariorum Plantarum Historia," to which the reference applies, was not published until 1601, whereas Lobel's "Observationes" appeared in 1576 and his "Icones" in 1581; moreover, the same figure appears in Dodoens' "Stirpium Historia" in 1583. The known accuracy of

BUDDLEIA FORRESTII.
A valuable shrub for grouping on lawns.

Stokes prevents the natural assumption that he made what in this case would be a serious mistake; and it may be added that C. C. Schmidel, of Gesner's "Opera Botanica," which he edited (1770), follows the reference (ii. 51) to Lobel by the words "icon. Clusii": I cannot, however, trace the figure in any other of Clusius's works. The figure, besides appearing in Johnson's edition of Gerard (1633), Parkinson's "Theatrum" (1640) and (in an altered form) in Morison's Hist. Pl. Oxon. (1699), as indicated above, is reproduced, with the addition of a separate flower, in W. Salmon's "English Herbal," page 414 (1710). Perhaps some reader of THE GARDEN may be able to throw light on the mystery of the reference to Clusius, which I am reluctant to regard as erroneous, though I cannot explain it. The figure in Gerard's "Herball" (1597), for which Johnson substituted that which has just been discussed, first appeared in Tabernæmontanus's "Neuw Krauterbuch" (1588). The reference to Lobel and the description show that Tabernæmontanus had the right plant in view; but the figure differs greatly from the usual form, although it is by no means impossible that it was intended to represent Pneumonanthe. Johnson, while reproducing Gerard's descriptions, suspects that "our Authour" did not know the plant: "first because he describes it with leaves like unto Time, when as this hath long narrow leaves more like to Hyssop or Rosemary," and also because he says the plant is annual. But later in his description Gerard quotes and confirms, apparently from observation, the account from Ruellius already cited, and the root is correctly shown in the figure. The Kentish localities assigned by Gerard to the plant are, as Johnson says, certainly inaccurate; but the note that "the gallant flowers heerof be in their braverie about the end of August and in September" is conclusive evidence that Gerard was acquainted with the plant.

Buddleia Forrestii

SEEDS of this handsome shrub were sent home by Mr. Forrest from Western China in 1918. It is a vigorous species, belonging to the variabilis group, and evidently appreciates rich soil and plenty of space for full development. A small seedling, less than 6 inches high, came to me from Wisley last May. When it flowered in September it was over 5 feet in height and had grown into a fine bushy plant. Its chief feature is the dense white tomentum on the square stem and on the underside of the leaves, which is well shown in the accompanying illustration. The racemes of flowers are similar to those of the well known B. variabilis, but are shorter—at any rate in young plants. The flowers are a light mauve in colour, and are not so attractive as the best forms of variabilis; their strong honey-like scent is delicious, and appeals to the Red Admirals and the Peacock butterflies as much as it does to the gardener. It should prove a valuable shrub for grouping on lawns against a background of dark foliage to show up the beautiful white underside of the leaves. It is quite distinct from Buddleia nivea in the shape of the raceme and much paler flowers, and is, I consider, a finer shrub altogether. Hard pruning in spring will probably suit B. Forrestii as well as it does B. variabilis varieties.

N. G. HADDEN.

RIVIERA NOTES

Aloe ciliaris.—How rarely one sees this climber in full beauty! Having struggled with it for many years and never succeeding in flowering it really well, I was all the more surprised and pleased to come across an immense old plant the other day. It was trained up an old peasant's house that has lately been used as a nursery garden house, and it covers a large space at the south-western angle of the house with one mass of its dainty spikes of red flowers like glorified Lachenalias. For fully 20 feet in height, and perhaps 8 feet or 10 feet in width, it promises to continue in beauty for weeks. As its solid texture enables it to stand a rough wind or an occasional cold night, it is, indeed, a desirable plant when seen at its best, and evidently is a plant that improves

Polymnia grandis or **Montanoa bipinnatifida.**—There could hardly be a greater contrast between any two plants than between the scarlet flowered Aloe ciliaris and this Montanoa of the much-divided leaf. Both are kind enough to show their fullest beauty in the month of December, and when, as at present, "Summer lingering warms the lap of winter," their beauty is very striking and compels admiration. This Polymnia or Montanoa was grown at one time in English gardens as a summer foliage plant, treated as an annual and grown only for its leaf. But when left alone and allowed to flower, it is indeed another thing, and its strong, leafy shoots are crowned in December with large branching panicles of white flowers that recall either a monster Aster or a small-flowered Sunflower in style and shape. Towering up to a height of 10 feet or 12 feet and with a crown of a hundred or more blossoms, it is a very handsome shrub at any season, and especially welcome at Christmastide. Now and again a severe winter or a sudden frost will kill it down to the ground when at the height of its beauty, but for all that it is well worth a place in any large Riviera garden, and a fertile source of wonder to all newcomers who can raise their eyes so high!

Owing to the heat and moisture of the autumn there are few Primulas to be found in gardens this winter. It is a great loss, as they are always so useful in semi-shaded situations. Not only the Chinese Primulas have died off, but the hardier P. obconica and P. malacoides have suffered very severely. Only the hybrid, Primula kewensis, that stands more sun-heat, has survived, so our winter gardens will be shorn of one of our most familiar flowers.

Chimonanthus fragrans.—The fragrance and beauty of this well known shrub is curiously enhanced this year by the fact that it is flowering while still in leaf. The leaves themselves are fragrant just now when they change colour, and the many shades of colour in the leaves and the abundance of the large, well opened flowers make the big bushes highly ornamental. The golden-flowered form, sometimes called grandiflora I believe, is so brilliantly coloured it would make a sensation could it be shown to Northern gardeners. December is fragrant with its pervading odours. Now that there are so many unheated corridors or glass houses, surely this unrequiring shrub would be worth a place in shelter, where its scent would not be blown away into space? E. H. W.

Rhododendron Kew Manglesii

SINCE the late Mr. Mangles used Rhododendron Griffithianum (Aucklandii) with such great success in breeding the large-flowered race of hybrids with which his name is so closely associated no single species of Rhododendron has been so freely used by the hybridist. Among the best known of this gentleman's raising are Isabella Mangles, Dulcie Daffarn, Daphne Daffarn, Mrs. Ellice, Loder's White and Manglesii. The last named is a hybrid between R. Griffithianum and the old favourite hybrid album elegans. The plant illustrated is of similar origin and was raised at Kew.

Though not identical with the original Manglesii, it is not considered sufficiently distinct to warrant another name, hence Kew Manglesii or Manglesii of Kew. The large flowers open with a flush of pink, changing with age to white.

LANDSCAPE GARDENING

BY SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

TO design a landscape on a liberal scale is one thing, to live to see it grow into full effect is another, not granted to all who undertake the enterprise. To accomplish the first intelligent purpose and practical understanding of the behaviour of trees, shrubs and herbs are essential; to enjoy the second the days of the designer must be long in the land. Both these conditions have been fulfilled in the person of Mr. W. Robinson, whereof signal proof lies before me in the second and enlarged edition of his "Home Landscapes."*

The first part of this fine volume consists of thirty-two plates in photogravure (it must have given the author a pang to allow this process to supplant the noble craft of wood-engraving, to which, I think, he remained faithful longer than anyone else) showing the successive steps whereby "the poor and neglected land" of Gravetye has been transformed into scenes of surpassing sylvan and floral beauty. The plates are supplemented by brief explanatory paragraphs—too brief, perhaps, to satisfy those who have long ago learnt to rely on Mr. Robinson's lead in landscape gardening.

The present writer is one of the fast dwindling band of amateur gardeners who remember the opening in the early 'seventies of Mr. Robinson's crusade against mid-Victorian gardening, a crusade which ended in the utter discomfiture of the bedding-out school, restored to our borders those old-fashioned perennials which still lingered in unfashionable quarters and prepared them to receive hundreds of new exotic species which the enterprise of collectors has brought within our reach in recent years.

Mr. Robinson is faithful to his old creed. In the second part of this volume he inveighs with all his pristine vigour against the topiary treatment, whereby the natural growth of trees and shrubs is tortured into unnatural shapes.

"As to the clipping folly," he says, "many good country houses are disfigured by it. One of our weekly papers devoted to country life has lately figured a place in Yorkshire with the trees shorn into the shape of old Jerry hats. . . . What gain is it to the noble art of architecture to flank and fortify a fine building with caricatures of trees?"

RHODODENDRON MANGLESII OF KEW.

We cordially agree that the amount of clippir performed in many demesnes not only produce a wearisome, uninteresting result, but absorbs a deal of labour that might be employed to far better advantage in other ways. Nevertheless, living as we do on an exposed seaboard, we cannot afford to undervalue the protection obtained from tall hedges, which must be regularly clipped to prevent them getting bare below and so admitting a searching draught. In such districts there is nothing better or more beautiful for the purpose than the Monterey cypress (C. macrocarpa), which may be propagated by the thousand from cuttings, although for forest growth it should always be raised from seed.

Mr. Robinson's well known advocacy of the use of English names for plants causes him to avoid scientific terminology as scrupulously as a rhododendron shuns lime. The result is that his meaning is sometimes short of clear. For instance readers may not at once understand "the Vi

* "Home Landscapes," with views taken in the Farms, Woods and Pleasure Grounds of Gravetye Manor. Second Edition, enlarged, by W. Robinson. Author of "The English Flower Garden." (London: John Murray, 1920.)

or red cedar" (page 50) to mean Juniperus virginiana, which is not a cedar, or the Louisiana cypress (page 56) as Taxodium distichum, which is not a cypress. For every million English speakers in the United Kingdom there are three millions in North America, a fact which renders precision out of the question in English nomenclature of plants, compelling resort to the dead, and therefore unchanging, languages. Rockspray is a prettier name than Cotoneaster, but how is one to order from a nurseryman the species required without using botanical terms.

In the plates adorning this volume Mr. Champion has grappled most successfully with the difficulties inseparable from all photography of ground more or less cultivated. It is seldom indeed that a painter's eye, trained in all the niceties of composition and chiaroscuro, can rest with complete satisfaction on products of the camera; but some of these plates are lacking only in colour to be pronounced perfect pictures. Such is the landscape seen from Smuggler's Lane (Plate IV), and the view of Gravetye House from the Heath Garden requires but the introduction of a couple of figures to break the line of road traversing the middle distance, to satisfy the most fastidious taste.

The plates in the second part of the book are of a different character, being intended to illustrate trees in their natural form associated with fine architecture. They are presented without comment by the author, some being photographs from paintings, others taken direct from the actual subjects. Taking it altogether, Mr. Robinson's latest contribution to gardening literature is a very beautiful one, and conveys sound precepts for the creation and management of park and garden scenery.

Chinkerichees

(ORNITHOGALUM LACTEUM).

THIS interesting South African flower has recently been sent in quantity to Covent Garden Market and many readers have enquired its name. Its South African names are Chinkerichees and Pigeon's Milk, but it is, perhaps, better known in this country by the botanical name, Ornithogalum lacteum. This species is figured in the *Botanical Magazine*, t. 2,510, where the common name is given as the Milk White Star of Bethlehem. Great quantities of these flowers are imported into this country for decorative purposes. They arrive in a rather dried up and undeveloped state, the ends of the stems being sealed up. On arrival here the sealed portion of the stems is cut off and the flowers placed in water. After a short time the milk white flowers expand and they last for weeks or sometimes months. For house decoration they are much in demand, and they are sometimes used for wreath work. The flowers are known to last many weeks when made up into wreaths, and withstand cold weather and fogs with impunity, whereas other flowers perish. Unfortunately, like other gems of the South African flora, the Chinkerichees are scentless. The flowers shown in the accompanying illustration were photographed some months after they were picked. We have seen many vases of these flowers this Christmas used for table decoration, for which they are admirably suited.

VEGETABLES IN THE NORTH

VARIETIES THAT SUCCEED WELL

WE are again at the season of seed catalogues, and while the "old hand" has trifling trouble making out his seed order, it is far different with the beginner and the amateur. With numbers of species, the long list of varieties even when accompanied by more or less clear descriptions are a cause of confusion, rather than a help. A long and varied experience has taught me the fact that only a comparatively few sorts are really universally reliable. Seeing this is so, it is futile to sit down to a catalogue and make out a list of requirements haphazard, for this way lies trouble. In the brief list I am about to jot down, I place only such varieties as I have proved by several years trial to be entirely reliable here in the North.

CHINKERICHEES (ORNITHOGALUM LACTEUM).

Peas.—I will take these first as being probably the most esteemed of all vegetables. A really reliable lot are The Pilot, Manifold, Senator, Discovery, Boston Unrivalled, Glory of Devon, Royal Salute, Superlative and Rearguard. These nine varieties, if sown in above order, will produce a constant supply throughout the whole season. Other good Peas here are Carter's Daisy, Commonwealth, Dreadnought, Carter's Latest Giant and the Gladstone.

Broad Beans.—Milecross, Monarch, Green Giant and Seville Longpod are all that are necessary.

Dwarf Beans.—Sutton's Reliance, Masterpiece and Canadian Wonder.

Cauliflower.—Sutton's Magnum Bonum, Sutton Favourite, Walcheren and Veitch's Autumn Gia will yield uninterrupted supplies from July November.

Broccoli.—It is seldom worth while to gro any but spring and early summer varieties of th useful vegetable. Leamington, Lauder's Late an Methven's June are the best, the last-name standing even the most severe winters.

Cabbage.—Flower of Spring and Milecros Marrow for July sowing, with Dickson's First an Best, Sutton's Favourite and Winningstadt fo spring sowing, will produce a steady supply fro April till December.

Savoys.—Dwarf Green Curled, Sutton' Best of All, Ormskirk and Omega will ordinarily, give supplies from Octobe till April.

Lettuce.—Carter's Holborn Standard, Webb's Wonderful and New York Giant, if sown at intervals from February (i heat) to July, give a fine supply until severe frost sets in.

Onions.—If sown in heat in January, a good strain of Ailsa Craig, Danvers' Yellow and Wroxton Globe will provide a supply from August till April. For autumn sowing Trebons and Danvers' Yellow are very reliable.

Leeks.—For all ordinary purposes the true Scotch Musselburgh is unbeatable.

Brussels Sprouts.—Very hardy and splendid croppers are Newtownards Gem, Solidity and Dwarf Gem.

Borecole.—Russian Kale and Dwarf Green Curled.

Beet.—Nutting's Dwarf Red for smallish bulbs of fine flavour, and Pragnell's Exhibition where large specimens are desired.

Carrots. — Early Nantes and St. Valery.

Turnips.—Sutton's Snowball, Dobbie's Golden Ball, Chirk Castle and Bangholm Swede will give supplies for quite nine months of the year.

Celery.—Grove Pink, Grove White and Dickson's Superlative Red are very certain sorts.

Parsley.—West of Scotland Prize, Dickson's Triple Curled and Myatt's Garnishing, are all good.

Spinach.—Triumph, Victoria Round and Giant Prickly.

Potatoes.—May Queen, Edzell Blue, Sutton's Abundance, Great Scot, Golden Wonder and Langworthy. These six varieties will give a supply for the whole year if planted in proper quantity. The last two must be liberally manured.

Preston House Gardens, Linlithgow. C. BLAIR.

Cucumbers.—Raise young plants to succeed those which have been cropping. Sow seeds as recommended for Melons (see page 23), but add flaky leaf-soil to the compost. If Mint and Tarragon are required lift and place roots in shallow boxes of leaf-soil and place in gentle heat. Sow Mustard and Cress at intervals of ten or twelve days. Introduce, as required, Seakale and Rhubarb into a Mushroom house, also Chicory, and keep perfectly dark. Cover Endive at intervals to blanch; if more convenient to lift, place in Mushroom house, but avoid excessive

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Roses.—It is almost impossible to have too many of these beautiful plants in the garden. Whether grown in an irregular manner in beds or borders or in a place set apart for them, no pains should be spared in the preparation of the sites chosen. Roses are most happy in a fairly strong loamy soil.

Planting.—In mild, open weather this may be continued practically all through the winter, although where the district is cold and bleak it would be wise to postpone this operation until the middle of February. Where protection for the more delicate varieties is necessary it may be afforded by placing broken straw or Bracken in the heads of the bushes. Dry soil heaped round the stems, cone-like, is also to be recommended and is preferable to mulching as a protection, as the latter tends to keep the roots cold and wet.

Wild Garden or Woodlands.—What comprises a wild garden or what should be grown therein is a somewhat debatable point, but groups of Flowering Cherries, Crabs, Guelder Roses and Barberries may be most effectively used with huge drifts of Bluebells, Wood Anemones, Violets, Primroses and Daffodils, and for taller-growing plants there are such subjects as Willow Herb, Verbascums and Foxgloves. No stereotyped plan can be recommended to suit every position, the greatest factor being the lay of the land. The more we allow Mother Nature her full sway in this part of the garden the better results we shall obtain.

Plants Under Glass.

Bulbous Subjects.—Should a batch of Begonias and Gloxinias be raised annually, seed should be sown at once; another sowing of Gloxinia seed may be made later for autumn blooming. Provide ample drainage in the receptacles used; let the soil be light and porous and uniformly moist. To ensure an even distribution add a little silver sand to the seed before sowing, and this is all that is required as a covering. Germination should take place in a warm and moist house, and as an aid to this end cover the seeds with glass and protect from strong light. The earliest ripened bulbs of Gloxinias may be gently started; likewise some of the Amaryllis and Caladiums.

Stimulants.—Probably no subject requires greater discretion (during the winter months especially) than the application of manures to plants. Better to use none than to try to force plants with a too frequent use of them. Before using any manure be sure the plant is well supplied with roots. It is well to vary the use of some approved fertiliser with weak farmyard manure and soot-water. Among other plants requiring such assistance may be mentioned Arums, Cinerarias, Cyclamen, Primulas and Zonal Pelargoniums.

Fruits Under Glass.

Melons.—If early fruits are required make a sowing of seed now. Place them singly in small pots in light fibrous loam and plunge in a hot-bed or place in the propagating house. If no such place is available, plunge the pots in a box about 12 inches deep, having Coconut fibre or sifted leaf-soil in it; cover with a sheet of glass and place on warm pipes where a temperature of from 65° Fahr. to 75° Fahr. can be maintained.

Vines.—Continue to clean the mid-season and late houses and put ready for starting when required. Top-dress the borders, using good fibrous loam to which has been added some wood-ash and bone-meal, taking care to make the whole firm. Ascertain if the borders be at all dry, and if so, thoroughly soak with tepid water. Where late Vines have carried heavy crops it is beneficial to add a proportion of farmyard liquid manure to help them regain some of their lost vitality. A vinery closed now for starting needs but little fire-heat until the buds are moving; let the night temperature be about 45° Fahr., or even less if the weather be very cold. Where buds are swelling in earlier houses a slightly higher temperature can safely be used, taking care to avoid high night temperature. At midday, when bright, a little spraying may be practised, but avoid excess.

Figs.—Cleanse, prune and train late trees. Be sure to allow ample room between the growths when tying in. If top-dressing, add a goodly share of old mortar rubble to the compost.

H. TURNER
(Gardener to the Duke of Northumberland)
Ilbury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Sowing Seeds.—It is now necessary to make a few early sowings of seeds. The sowing of the main batch of Onions for large bulbs should be made now. Cranston's Excelsior and Ailsa Craig seem to retain their popularity as reliable sorts and with us prove most satisfactory. Sow in well-drained boxes filled with a mixture of good loam, leaf-mould and gritty sand; see that it is in a moderately dry condition, press firmly, and sow regularly and thinly. Failing a well-heated pit, a very suitable place is an early Peach-house or Vinery. A sowing of Leeks for early work may be made in like manner.

Forcing Seakale, Rhubarb and Asparagus.—Continue the planting of Rhubarb and Seakale for forcing, always selecting good strong crowns for that purpose. Asparagus should also be put in, as a dish of this delectable vegetable early in the year is much prized. A Mushroom-house is preferred for the first two, but for the Asparagus the bed of a Melon-pit is most suitable, although if inside accommodation is limited, a very satisfactory batch may be raised by means of a well-made hotbed. It is essential that strong crowns be used, or the crop may prove disappointing.

General Work.—Should the weather be stormy and unsuitable for outside work, advantage may be taken to inspect roots in store. Potatoes especially require an occasional look over. Useful labels may also be prepared, while all implements should be examined and any necessary repairs attended to. Lawn-mowers especially should be sharpened and made ready for use when required.

The Flower Garden.

Michaelmas Daisies.—Beds of these in want of replanting may now be taken in hand. Being gross feeders, the bed soon becomes exhausted, so that the impoverished soil should be augmented by a generous supply of well-rotted cow manure. The soil from Melon or Cucumber beds may also be used with advantage, these generally being rich in unexhausted manures. Among the strong-growing varieties of Asters, Climax and Beauty of Colwall are prime favourites, both for their good qualities as cut flowers and their handsome appearance when planted in bold groups in the flower garden.

The Rock Garden.—This should now be looked over and the decayed foliage and leaves removed, while the surface may be scarified with a small cultivator. Some of the more tender subjects should be protected from slugs, either by dusting with soot or by ringing

The Hardy Fruit Garden.

Peaches.—In the north one finds that Peaches are generally the last trees on the wall to receive attention, probably owing to the wood being long in ripening. Trees should now be untied and the young growths judiciously thinned, so that, when retied, they should be about 6 inches from one another.

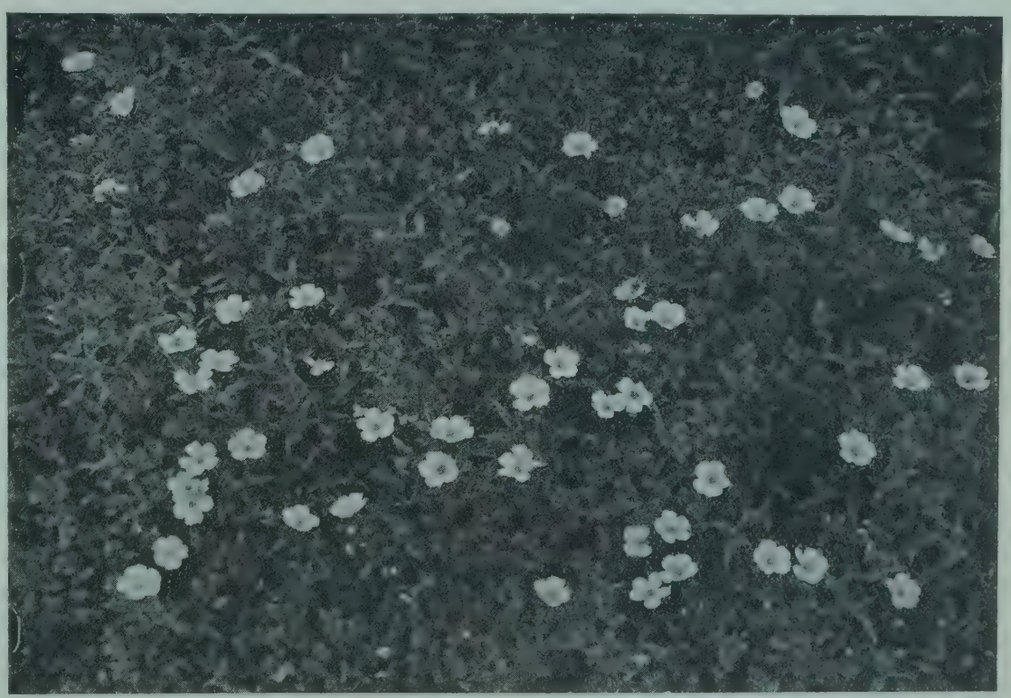
Damsons.—Where space is limited in the garden, a few plants of these may be planted with advantage in various parts of the pleasure grounds, their beauty when in flower being only surpassed by their utility when covered with fruit in autumn.

Plants Under Glass.

The Conservatory.—At this time extra effort must be made to keep the conservatory as bright as possible. Chrysanthemums will now be past, and tall flowering plants will be scarce for a period, so that a few more Palms may be introduced and will give a pleasing effect. Cyclamen, Primulas and Geraniums help to maintain the display. Careful watering must be the order, while the atmosphere should be kept as buoyant as possible.

Begonia Gloire de Lorraine.—The earlier batch of this delightful subject having been cut over, the stools should be put into a warm pit or stove near the glass, so that they may throw nice stocky cuttings.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.



CISTUS HIRSUTUS OR THE HAIRY ROCK ROSE.

CISTUS HIRSUTUS

THIS Rock Rose is very well named, being very downy and thickly clothed with hairs in all its parts. A shrubby and freely branching bush, it is wide spreading compared with its height, which is usually from 2½ feet to 4 feet. The leaves are ovate-oblong up to 2½ inches long and about one-third in width, sessile and three-nerved. The white blossoms are about 1½ inches in diameter, yellow at the base, produced several together in terminal cymes. The Hairy Rock Rose is free flowering and a fairly hardy species, if the garden is cold it should not be difficult to find a sheltered sunny corner where it will thrive. An old garden plant, Cistus hirstus is a native of Spain and other parts of Southern Europe. Rock Roses cross so readily, it is scarcely safe to collect seeds for propagation, except when the plants are growing in isolated positions. Cuttings may be inserted now in a prepared bed of [illegible] frame to root [illegible]

PLANTING FRUIT TREES

VARIETIES THAT SHOULD BE MORE FREELY PLANTED.

WITHIN comparatively few miles of Nottingham three of the finest cooking Apples of the whole world have been raised, viz., Bramley's Seedling of Southwell; Newton Wonder, sent out from Lowdham and raised just over the Derbyshire border; and that very excellent Apple Annie Elizabeth, from Leicester. All three of these varieties do exceptionally well on stiff, heavy soil, and they are among the three best keepers in commerce; indeed, they are excellent dessert Apples from April onwards, and we have known Annie Elizabeth to keep till September, when the new crop is ripening.

Trees on Arrival.—When the trees arrive, unpack and, if a large quantity, lay them in the soil at once and cover the roots. Should the trees arrive in a withered state, due to delay on rail, place them in a pond or any water for a few hours.

APPLE CHARLES ROSS DOES WELL ON THIN SOILS OVER CHALK.

If they arrive in a frost, do not unpack them; place each bundle of trees in a barn or shed, and cover with straw until the frost disappears.

Varieties that should be more Freely Planted.—The object of this selection is to draw attention to some very excellent fruits that are too often overlooked at the planting season. Some of the varieties mentioned have been in cultivation many years, but are still comparatively little known.

Cooking Apples.—Of the best keeping varieties there is nothing to equal the three already mentioned, viz., Bramley's Seedling, Newton Wonder and Annie Elizabeth. The newer variety Edward VII is coming to the fore as a market Apple. It is similar to Golden Noble, but a better bearer, and it is an excellent variety for regrafting old and unsatisfactory standard trees; that is to say, it quickly makes a young head on old shoulders. The fruits are large and keep well, but it cannot be compared to the three foregoing Apples for cooking qualities. As an early culinary Apple the Rev. W. Wilks is excellent. We know of no other Apple that comes so quickly into bearing. The fruits are very large, creamy yellow in colour, and so free that trees planted now would, normally, bear well next year. The variety Charles Ross raised in the Newbury district does well in thin soils on chalk, and is already a popular market Apple for dessert and cooking.

Dessert Apples.—One of the finest Apples of recent introduction is unquestionably Ellison's Orange. It has been admirably shown during the last few years at the fruit exhibitions of the Royal Horticultural Society. In the opinion of some of our leading Apple experts it is second only to Cox's Orange Pippin in flavour, but it is a larger fruit and even better in colour than the favourite. It is very fertile and vigorous, and is in season during October and November. This is an Apple that pleases everyone. Another Apple of similar quality, though somewhat earlier and smaller, is St. Everard—virtually an early Cox's Orange Pippin—a yellow fleshed Apple, crisp, juicy and aromatic. Sooner or later this variety will find its way into every garden worthy of the name in the country; so far, the supply is not equal to the demand. James Grieve is another early dessert Apple that can strongly be recommended. In THE GARDEN Apple Audit of last year it was placed third among the best flavoured Apples in cultivation, the other two being Cox's Orange Pippin and Ribston Pippin. If other early dessert Apples are required we recommend Langley Pippin and Miller's Seedling; the writer has been familiar with the latter for over twenty years. It was raised at Newbury and is widely planted in the Berkshire orchards, but is comparatively little known in other counties. It is a creamy yellow Apple, flushed bright crimson; very sweet and juicy, and in season in August.

Dessert Pears.—We so often hear complaints about Pear trees growing vigorously and bearing no fruit. In these circumstances the trees should be root pruned or lifted in the early autumn. There is an old variety, named Thompson's, all too often overlooked. It is second only to Doyenne du Comice in flavour, and is in season during October and November. Those who are on the look out for a late keeping dessert Pear should try Santa Claus, a large brown russet Pear with melting flesh, the delicious fruits of which are in season at Christmas.

Plums, Damsons and Bullaces.—For jam making there are few, if any, Plums to equal Black Diamond; its very large black fruits are preferred to all other Plums in the kitchen. It is a thousand pities that the old Green Gage is dropping out of cultivation. There is nothing to approach it for flavour, but it is so shy bearing and few are disposed to wait five or six years for, at the most, a moderate crop of its luscious fruits. Like Coe's Golden Drop and Jefferson the Green Gage does best on a wall. Of Damsons there is nothing to equal the Merryweather. It is as vigorous as a Victoria Plum and commences to fruit as soon as the tree is two or three years old. The fruits are as large as Plums, with the true Damson flavour. It is a sure cropper, and for bottling it is all that could be desired. So many Damsons are more than half stones—not so the Merryweather, the fruits of which, by virtue of their size, could easily be mistaken for Plums. Bullace Plums are not sufficiently grown—they extend the Plum season well into the autumn and do well as hedgerow trees, or as a protection to the orchard on its bleakest side. The Langley is the pick of the Bullaces, though it is sometimes a few years before it comes into full bearing.

H. C.

What Can be Done with Movable Frames

THE production of the best early flowers and vegetables ought to be considered not merely a pleasure, but a necessity, in every garden. Every garden, whether small or large, should possess several frames; and they are especially useful to those who wish to produce their own vegetables. Let us suppose, then, that the gardener has had a frame constructed. In February, in the warmest position at his disposal, he will dig a pit, three feet deep, of the same length and width as the frame. The pit must be filled with barrow-loads of manure and the same of leaves, over this must be spread the soil excavated, then cover the whole with the frame, and around it pack leaves and manure. Eight days after seeds, as desired, may be sown—early and Roman Lettuce, Cabbage Milan, a few Leeks for use in May and June, and Cauliflowers for planting out in April. A little Radish seed may also be sown as a supplementary crop. As soon as the seedlings appear above the soil air must be admitted every day. In April the frame may be taken away and the seedlings exposed to the open air. The frame should then be placed over the spot in the garden prepared for the sowing of such annuals as Petunias, Zinnias, Amaranthuses, Balsams and Ten-week Stocks, which need shelter for their development. In May the frame can again be taken away, and placed either over the first hot-bed or over a fresh one, where some Melon seed may be sown; two roots may remain in each frame, the others being planted on a slope or on the level. In July the Melons being uncovered the frame can be placed in the shade, where it will serve for striking cuttings from Pinks, or for sowing Pansies, Myosotis, and other spring flowers. In September

Melons are backward, the frame can be replaced over them, and this will soon bring them to maturity.

In October, on the old hot-bed, some Lettuce may be planted, which will be fit for use in December, or the frames can be placed over early Carrots sown in August, and which will then be good for the whole winter. Radishes may also be sown in October, and if covered by a frame in November will be fit for use until January; or, again, there may be a small plot of Sorrel, which, if covered up in autumn, can be preserved throughout the winter. Endive and Chicory can also be kept under a frame until March. If Violets are planted under a frame in October they will blossom during part of the winter. If a frame is placed over a bed of Strawberries fruit may be gathered in the beginning of May. If dwarf Peas are sown under a frame in January they will bear by the end of April. If Haricot Beans are sown under glass in the early days of April a gathering may be had at the end of May. Thus the frame is useful everywhere, and all the year round, and what has been said of one will apply to more. Our climate is subject to short spells of very cold weather, and in one night we may lose the work of several months, yet the protection of a sheet or frame will safeguard young plants, and advance growth by several weeks. A little book just issued* has been specially written to show readers how they can increase the produce of their gardens by the use of movable frames. It is full of practical suggestions, and shows how the same frames with the minimum amount of labour can be used for successive crops in different parts of the garden the whole year round. It may be objected that the management of hot-beds demands a certain amount of knowledge and skill; but with a little practice and observation this will be easily acquired. F. B.

Capsicum and Chili

THESE are interesting and ornamental plants. Ornamental Capsicums are all adapted for pot culture and make good conservatory or table plants. Both Chilis and Capsicums can be used as pickle ingredients, flavouring condiments, and non pungent varieties may be boiled and used as vegetables. Seeds of Capsicums should be sown on a hot-bed within the next few months, using light and rich soil. Pot off the plants as they develop, first keeping them on a mild hot-bed, and then passing to a warm house, conservatory or vinery. Pots of 5 inches to 8 inches are the most suitable. The treatment for Chili (Bird Pepper) is that required for tender annuals, the seed being sown at the end of March, on a mild hot-bed or in a sunny frame. It is then necessary to nurse the plants carefully until the beginning of June, when they may be planted out under a hot wall or fence. In favourable situations in the South seed may be sown in the open about the middle of May. L. M. M.

* "Cultivation with Movable Frames," by Herbert Cowley. Published by *Country Life*, Ltd. Price 9d.

The Late Henry F. C. Sander, V.M.H.

HENRY F. C. SANDER was born in 1847. When quite a boy he exhibited that love for plants which later found its outlet in the famous nurseries he established at St. Albans, England, and at Bruges, Belgium. In 1867 he entered the Nurseries of Messrs. Carter, then at Forest Hill, where he gained an insight into the varied branches of their business. It was there that he formed his first connection with Orchids, for he met Benedict Roezl, the famous explorer and plant collector. The two collaborated—Roezl to collect and send Orchids, Cacti, &c., to Mr. Sander who, establishing himself soon after in George Street, St. Albans, as a seed merchant, received and disposed of the plants to their mutual advantage.

In 1873 Mr. Sander built his first greenhouse almost entirely with his own hands. Still the business grew, and when Roezl retired, his nephews contined the work of collecting Orchids for Mr. Sander. The demand for Orchids grew, and for several years Mr. Sander had regular Orchid sales in London on four days in the week. By sending his collectors to then unexplored countries and districts he was able to obtain a stream of fine novelties—among others Vanda Sanderiana, Erides Sanderiana, Cattleya gigas Sanderiana Cypripedium insigne Sanderæ, Cymbidium Sanderi. Acalypha Dracæna and Nicotiana Sanderiana are commemorative of his enterprise. These and the introduction in quantity of Dendrobium phalænopsis Schröederianum, Cattleya labiata vera and the discovery of Cattleya Schröderæ gained him renown in the horticultural world. He would not be disheartened, and when the first consignment of the then so valuable Dendrobium was burnt up in the sailing vessel chartered for their carriage he immediately cabled the collector to go back and get more.

During those years also the hybridisation of Orchids was begun and very successfully carried on at St. Albans under his supervision. In 1886 he published the "Reichenbachia," a large descriptive book on Orchids, in which life-sized illustrations were the main feature. The majority of the paintings were drawn and the lithographs supervised by the late Mr. H. G. Moon, his son-in-law, who first met him in connection with his work. In 1894 Mr. Sander started a new venture and he founded the nursery at St. André, just outside the gate of the ancient City of Bruges in Belgium.

The war brought to Mr. Sander intense anxiety; not only because of the members of his family out in France, but because the nursery he had founded and built with such infinite care and labour quickly passed into the enemy's hands, and he never knew from day to day whether it was destroyed or whether the property had been sequestered, but he had the satisfaction of returning there after the war to find a good deal saved, thanks to the efforts of his manager, Mr. June Mellstrom, who staved off the sale of the nursery after its sequestration until just too late, in September, 1917, to carry it through. He passed away on December 23, 1920, in a nursing home at Bruges, peacefully during a sudden relapse.

THE GIANT OF THE ORCHID FAMILY.

Grammatophyllum speciosum

THE fine example of this gigantic Orchid represented in the accompanying illustration was one of the many valuable gifts made to the Royal Gardens, Kew, by the late Mr. Sander in 1893. It was the largest plant known in the Malay Peninsular, and at considerable cost he secured it with the intention of exhibiting it at the Great Chicago Exhibition. Owing to an accident on the voyage home the plant was somewhat damaged, and Mr. Sander presented it to Kew, where for many years it has been a conspicuous object in the Victoria Regia House and has flowered several times. It is now much reduced in size. Before it was removed from the Penang Forest it measured 40 feet in circumference and had seventy-three pseudobulbs. When it first flowered at Kew the pseudobulbs were 10 feet high, thick as a man's wrist, and very strong. Wild plants have been known to bear thirty spikes of flowers, each flower measuring 6 inches across, the colour being tawny yellow with brown purple blotches. It is the giant of the Orchid family.

POULTRY NOTES

By W. POWELL-OWEN, F.B.S.A.

NOW is the time to be planning for the 1921 hatching season. To be always early means success in poultry-keeping, and yet so many are content to be late with their arrangements year after year without taking steps to profit by the previous season's mistakes.

Adopt Progressive Methods.—The general farmer is a good example in that he hatches late and, in fact, is always late with all things affecting his poultry. Consequently, he is denied the legitimate profits from his fowls and is content to declare beforehand just as his father and grandfather before him did: "Every hen dies in debt." If he would only get out of the groove and profit by past mistakes he would find poultry more profitable than any other crop or stock on the farm. One of the secrets of success in poultry-keeping is to hatch early and to be in time with all schedules; in a nutshell, it means adopting progressive methods. Considering, however, that one can, as a reward, treble one's hen profits, it is well worth the trouble.

Early Chickens Pay.—The early chicken is the one that brings in maximum profit and that should be the first lesson whether 60 or 600 head of stock is kept. When hatched out from January to April your early cockerels come into the market when there is a great demand for spring table chickens and at top prices. Your late cockerels merely come to market when there is a glut and prices are low. But it needs the same amount of time, labour, food and housing accommodation for the late as for the early broods, so why not be early and increase your profits? The very early pullets will all be in lay by late summer and will fill the egg-baskets while the adult birds are resting in the moult and at a time when eggs are not so plentiful. You catch a rising market with these eggs and, consequently, must benefit.

Mate Up the Pens.—Drive home the first nail therefore by mating up all your heavy-breed pens now and the light breeds a few weeks later. The best mating is undoubtedly hens to a vigorous early hatched cockerel of the current year. Hens are more experienced than pullets and, consequently, give stronger chicks, while the eggs are more fertile and also hatch better in incubators. The chicks, too, will grow better and make larger birds than those hatched from pullet matings. If you must use pullets let them be hatched nice and early, and let the cockerels used be fully matured and vigorous. To use May pullets mated with a June cockerel is not at all sound; there must be age in the mating because with age go maturity and ripeness for breeding.

Selecting the Breeders.—One needs to select carefully the birds that are to be the breeders; many fail in not being able to select a tip-top male bird. The main thing is to select from several so that one can be sure of having ample choice. Never use a cockerel just because he happens to be handy and is the only one, unless his qualities pass the test. The male bird is nine-tenths of the mating, and yet we find poultry-keepers who think that "any old male will do." I am always keen on having a male that is built on fine textured lines—a racehorse and not a carthorse—because that is the type that will breed heavy-laying progeny. Avoid big, coarse males with abnormally large combs and wattles; the head points should be of fine texture and not beefy. You may guess what is my ideal when I say that I prefer to be able to grasp the wattles with my fingers and not with my open hand.

Choosing the Male Bird.—The poultry-keeper who owns graded stocks will always reap a better harvest than the one who keeps ungraded flocks. Practise grading from the start, setting only selected eggs and avoiding any that are of abnormal size or shape, thin-shelled, and so on. Mark all chickens that ail during the growing stages by placing a special coloured ring on the left leg of each. At a later date refrain from using such birds in the breeding pen; that plan will help to ensure stamina in your strain. In like manner when you need eighty pullets rear a hundred so that you can cull out the twenty that are inferior to the others; and when you need a cockerel select him from several. I prefer to set aside a few of the best male birds and to examine them closely month by month to make sure of using the best. A male bird that is of nice appearance at four months may turn out to be a low-grade bird at six months; that is why one should keep several up to maturity in order to provide a better selection.

Signs of Stamina.—For breeding select a male that is keen and business-like, and one that takes an interest in his hens and in things in general. Let him be very broad across the back and wide between the legs. Let him, too, stand and run firmly on his pins and not be knock-kneed or flat-chested. Such is the male bird that will breed robust chicks and give little trouble by way of infertility. It is quite easy to test the breeding value of a male after he has been mated. In his presence pick up a hen and make her "cackle"; if he takes notice and resents it he will be a likely breeder. I often apply the same test inside the poultry house and with the male well down the run; if he hastens up the run into the house he passes the test. The best breeding male is generally spiteful to the owner during the hatching season, a point that is often overlooked by the poultry-keeper who is too eager to say: "What a spiteful beast." But if the male is spiteful to the hens that is not a good point of merit.

Condition of Breeders.—It is very important that breeding stock should be kept in good condition if the best fertility and hatching results are to be achieved. If the breeding birds are over-fed one must not expect either strong fertility or robust chicks; the same will happen if the birds are under-fed. An over-fat hen is never of much use to the owner, whether as layer or breeder. Some males are bad feeders, letting the hens feed before they themselves take any food. In such cases they must be fed daily by themselves or they will soon fall out of condition. During the breeding season it is a safe rule now and then to visit the roosts at night and to examine the crops of the male birds. If a cockerel has a full crop continuously the owner will know that he is feeding well; if a bird, however, has an empty crop he must be marked so that he can be fed by himself daily and can be watched closely for condition.

Scratching Exercise for Hens.—When mating up the pens do not include any hens that are internally over fat. Also be sure that the breeding hens are provided with ample scratching exercise during the hatching season to ensure fitness. Bury all grain deeply in the litter. See also that the birds are provided with ample green food, while now and then they will be all the better for an aperient. Once a week, for instance, a teaspoonful of Glauber's salt can be added to the hot water over the mash for each six adult birds. An occasional meal of raw minced onions will act as a useful tonic.

To Tell Condition.—When mating up the pens be sure to handle every female for condition. Place the thumb and finger of the right hand well into the abdomen (the thumb on one side and the finger on the other) and withdraw under gentle pressure. The abdomen should not have the "bladder-of-lard" feel about it, but should be silky and pliable. As one passes beyond the organs and reaches the skin, hold the latter to see that there is not a thick layer of fat underneath. Whether for laying or breeding, condition plays a very important part in achieving maximum results; every poultry-keeper should get to know by observation what condition his flocks are in. When a hen becomes fat the internal organs are enclosed in a bag of fat which readily interferes with their functioning. As a result the organs get sluggish and are pressed into small compass. What is more, the gizzard is pushed up against the oviduct to interfere with the passage of the eggs.

Cause of Overfat Condition.—It may generally be considered that something is wrong with feeding or management when a flock of fowls become overfat. It may be due to the owner supplying an excess of fattening foodstuffs, such as barley, maize, barley-meal, maize-meal, potatoes, potato peelings and the like. The remedy lies in completely altering the menu, but it is not an easy matter to get overfat birds fit again quickly, so that the soundest plan is to prevent overfat condition by feeding the fowls judiciously. Often in a flock an odd bird will get overfat, but this may be traced to greediness or low-grade quality. Being a greedy feeder the bird gorges, and being a poor layer there are few eggs to use up the food eaten. The first symptom of overfat condition is very often the laying of soft-shelled or badly shaped eggs, and that is why egg-eating can readily follow as the result of tasting the yolks.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any question dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2. Samples of foods (report thereon and suggested use), 1s. 6d.; post-mortems, 2s. 6d. each. Send samples and dead fowls (latter by rail and letters under separate cover) direct to W. Powell-Owen, "Powell-Owen" Poultry Bureau, 47A, High Street, Hampstead, N.W.3.*

THE GARDEN

No. 2565.—Vol. LXXXV. [January 15, 1921.

THE RIGHT USE OF ANNUALS

We feel sure that the practical suggestions and plans for annuals appearing in our pages will be preserved by readers for future reference. In response to enquiries as to the number of plants required to fill a given border we hope in an early issue to publish an article on this subject giving the distances apart that the seedlings should be planted. In the meantime attention should be devoted to the preparation of the soil.

In getting a garden ready for annuals every effort should be taken to reduce the soil to as fine a tilth as possible. As soon as the frost is out of the ground spade the soil. It is not absolutely necessary to work the soil very deeply for annuals. Many annuals, as explained elsewhere in this issue, will flower magnificently on poor, stony soil that is turned up only to a depth of 12 inches or so. In the case of the Sweet Pea, however, it is rather different. This annual pays for deep trenching and heavy manure. The point to remember in preparing the soil is that it must be left with a fine surface. It is only waste of seed to sow on coarse, lumpy ground, where much of the seed is lost, but there is no hurry to sow outdoors, March and April being quite early enough.

It is a common mistake, when sowing annuals where they are to remain, first, to sow too thickly, and afterwards to leave the seedling plants too close together. The result of this is an impoverished plant, and its life is consequently quite fugitive in character. As a case in point, we see mistakes made in many gardens where the popular Matthiola bicornis, the Night-scented

As a class of plants it cannot be said that hardy annuals are of difficult cultivation, if a due proportion of common-sense be exercised in their treatment. Most growers, no doubt, will have noted how well an adventitious seedling will thrive where it has had plenty of room to develop. How well these look, too! Take for example the self-sown Godetias in the accompanying illustration where they are seen flanking the steps leading to the upper lawn in the garden of Lady Byng of Vimy at Thorpe Hall, Thorpe-le-Soken, Essex Again a casual plant of the Nicotiana affinis hybrids will at times thrust itself upon our notice and thrive well. We have now several annuals that serve a useful purpose as foliage plants. Kochia tricophylla is an instance of this. As regards this plant, it may be noted that a mistake is often made of sowing the seed and coddling the plants in pots afterwards until they are planted out. The Giant Hemp makes a fine display as a foliage plant for the backs of borders. From the standpoint of fragrance alone, hardy annuals occupy a prominent position, as in the case of the Mignonette, the Stock, the Sweet Alyssum, the Candytuft, the annual Datura, the Sweet Scabious and, of course, the Sweet Pea.

From among hardy annuals (or those that can be raised in cold frames) we draw a large number of our everlasting flowers, such as the Rhodanthe, the Helichrysum, the Acroclinium and the annual forms of the Statice. Some of the prettiest of the ornamental Grasses are also annuals; these are excellent to use with the everlasting flowers just noted. Briza minima, B. maxima, Lagurus ovatus, Eragrostis elegans, Agrostis nebulosa and A. pulchella are all beautiful, and they also last well. Where a position can be allotted to hardy annuals alone, they make a most attractive feature, and well repay any extra trouble that may be given them. There is such a diversity in form, in habit and in growth. We have climbing annuals, bush-like annuals, prostrate annuals, annuals for growing upon walls, and annuals that will thrive where scarcely any other plant will grow.

We have hardy annuals also that well repay for pot culture, (see page 32) and we have often been surprised that so little use is made of them in that special way. Nothing in the spring is more delightful than pots of Nemophila insignis with the growth completely hiding the pots and studded with its bright blue and white flowers. The Mignonette is grown more than the preceding, but its growth in private gardens is not so good as the trade growers produce for our markets. Its requirements are not, so well understood as they should be. The Viscaria affords another instance of what may be accomplished in pots with hardy annuals, such as V. cardinalis, V. elegans picta, V. oculata and V. oculata cœrulea, yet these are rarely seen so grown. Annuals in pots may be cast upon the rubbish-heap when past their best to give place to something new and is not this a distinct

EDGINGS OF PINK GODETIAS IN AN ESSEX GARDEN.

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

REFLEXING IN DAFFODILS.

I HAVE been examining with interest the twelve Daffodil portraits in the lately published Annual Report of the Midland Daffodil Society. I do not know what expert photographers may think of them, but, for myself, I find them striking and admirable, because, apart from the question of colour, they seem to me to indicate so well the *character* of the flowers they stand for; that is to say, of the flowers which I happen to remember, though I am sorry to find that there are one or two of those remarkable blooms which I do not remember, if, indeed, I saw them. One of these is Crimson Braid, raised by Mr. Herbert Chapman and shown by Mr. Churcher. The description runs: "It has a very striking red-rimmed eye, which marks it off from every other variety. The perianth is white, but unfortunately is inclined to 'go back.'" It is one of the merits of the photograph that it shows so well the reflexed character of this Daffodil. But why "*unfortunately* inclined to go back"? I hope I can appreciate as much as anyone the beauty of those fine, bold, round-petalled flowers, the segments of which lie on the same or almost the same plane—a flower, for instance, such as the Daffodil the picture of which faces Crimson Braid's. But is this uniformity of plane a *sine qua non* in Daffodils? We know that the old Pansy fanciers were unhappy unless their flowers were perfectly flat circles; but we have outgrown, let us hope, this ideal of the Pansy. At any rate, I should be sorry to know that the same hard rule was laid down for the Daffodil, because there are some Daffodils (and, if I may judge from its portrait, Crimson Braid is one of them) of which one of the peculiar charms is precisely this—that its segments are not all on one plane, but so arranged as to give a sense of exquisite variety in distance and shadow. Every Daffodil is made up of two segment triangles, one superimposed on the other (I suppose the anterior triangle is the homologue of the petals in other flowers, the posterior of the calyx). In Crimson Braid, if the photograph is true to its subject, the calyx triangle of segments recedes from the anterior three. Can this be deemed "unfortunate"? Is it a misfortune for the flower, or an added beauty?—SOMERS.

THE AUTUMN-FRUITING RASPBERRY LLOYD GEORGE.

AS a very interested admirer of your paper, I should like to give my experience of growing the new Lloyd George Raspberry. I have not yet seen a description in your paper; even the grower's advertisement only mentions its perpetual fruiting propensity. I daresay many of your readers are thinking of planting Raspberries this spring and may be interested to know about this particular wonderful plant. I bought a few dozen in March, 1920. They were planted on clayey but well worked soil that had been bastard trenched and manured the previous autumn. At the same date I bought a few Superlative which I understood were of the highest repute of old varieties. They both had exactly the same treatment, and were planted in large holes in yellow fibrous loam mixed with a handful of bone-meal. In May they had another application of manure well round the roots on the surface—no artificial at any time. By the time growth ceased in the autumn the Lloyd George plants had thrown up from two to three of the strongest shoots I ever saw on Raspberries, some a good half-inch at the base. Also most of them had run a root under the surface which had sent up another strong shoot 3 feet high, which, when cut off, has, I believe, ample fibrous roots of its own to form a separate fruiting plant this next season. Superlative was a failure, 18 inches to 24 inches at the outside, and not half the strength. I have burnt them. I understand that the fruit of Lloyd George is larger than the ordinary Raspberry and luscious in flavour. —W. S. ETCHELLS, *Grosvenor, Bath.*

A USE FOR HEMLOCK.

PERHAPS there is no British weed deemed more worthless and objectionable than the common, evil-smelling Hemlock (Conium maculatum), none which scatters its seeds more persistently; and when these fall on the flower border they strike roots to such a depth that the effort to extract them is liable to give rise to most unparliamentary language. The umbels of its dingy flowers disfigure the margins of our moist west country woods in autumn, and although the plant is by nature only annual or biennial, if the flowering stem is cut down before seeding it takes a new lease of life and survives to repeat the offence in another season. Nevertheless, it may be made to minister to the comfort of those who, like myself, are confirmed pipe-smokers. The old flower-stems, which stand 3 feet to 5 feet high through the winter, make admirable pipe-lighters, far more convenient than the short spills usually provided for that purpose. I feel confident that any lady who, in furnishing her stall at a bazaar, should offer bundles of Hemlock stems neatly tied up in bright ribbon would find ready customers among the male creatures who wander disconsolately in the throng, fingering undesired photograph frames and superfluous pocket-books. I began by using the dry stems of Michaelmas Daisies; but they do not light so readily as Hemlock and, when lighted, drop incandescent ash to the detriment of the hearthrug. They are, however, invaluable as supports for summer flowers, being practically invisible. Dry Lily stems are quite as good as Hemlock, but not so easily come by. The fallen branchlet of Araucaria is excellent, for when lighted it emits a clear jet of gas from the tip; but it is much heavier than the Hemlock, and is inconveniently curved.—HERBERT MAXWELL, *Monreith.*

AUTUMN COLOURING.

IN your issue of December 25th, 1920, Mr. Noble asks for further suggestions on this matter. I have never gardened on chalk soils, so my suggestions may be in part of no value to him. But I have no doubt that he could not fail with Pyrus arbutifolia, a dwarf and rather uninteresting shrub in summer, but in autumn changing to the most gorgeous velvety scarlet. It will grow almost anywhere, and, but that its glory—like all mortal glories—is too fleeting, it is perhaps the most striking of all autumn colours. There is, perhaps, no need to mention Prunus Pissardii, many of the Japanese Cherries, which are almost as lovely in autumn as in spring, Viburnum plicatum or Amelanchier canadensis. These are all beautiful, if less startling in their valediction. To plant, however, with the best effect, I think it is always well to have some evergreen background to the autumn garden, and nothing, I think, is more effective than the rich and sober green of Irish Yew. But any deep green—green that has the ivory black of Rich's water colours in it—will serve. Talking of evergreens, I know of nothing better for a north wall than Elæagnus japonica macrophylla, with its polished green leaves moulded as it were from bronze and with a brilliant silver reverse. In a sunny position, when established, its large glaucous-orange berries add to its quiet sculptured beauty.—R. C.

THE POT MARIGOLD.

THE Pot Marigold (Calendula officinalis) is one of the true "old-fashioned plants," which has been in British gardens for many generations. It probably owed its early introduction to the use made of it in flavouring various dishes, but it is now cultivated for the brightness of its flowers. The appearance of the pretty variety called Meteor was hailed with delight a goodly number of years ago, when it was welcomed for its doubleness and the wonderfully symmetrical marking, practically checkering, of its blooms. Since that a few others, mainly appreciated for their warm colouring, have entered the field. One of these called Prince of Orange, is excellent and of a brilliant tone of orange yellow. This is commonly a biennial and often sows itself very freely. In the north, however, it is not safe to trust to a severe winter dealing tenderly with these seedlings and it may be treated as a hardy annual by sowing at the same time as other annuals of this class. Sown in June it will flower late. The authoress of "Stray Leaves from a Border Garden," speaks enthusiastically of it and tells us that a silver Marigold was one of the prizes at the Floral Fête of Toulouse, but it does not seem certain that it is our old Pot Marigold which is meant. Pot Marigold has still prizes offered for it at some Scottish flower shows, where they are generally described as "Scotch Marigolds."—S. A., *Dumfries.*

MICHAELMAS DAISIES AND BUTTERFLIES.

I HAVE read with much interest the article on Michaelmas Daisies by the Rev. J. Jacob in your issue of December 11, 1920, and the notes it has produced from other writers in your issue of January 1. I do not intend to discuss the merits of the single and double (more correctly called semi-double) varieties. Tastes differ. However, I cannot refrain from echoing the remark quoted by Mr. W. Linders Lea, that many expert gardeners when they have seen a really up-to-date collection have been astonished and have exclaimed, "I had no idea that Michaelmas Daisies were so beautiful." It is the attraction of these and other flowers for butterflies that induces me to write this note. No one seems to have remarked that, strong as the lure of the Michaelmas Daisy is to some of our most beautiful butterflies, there are other plants which prove even more attractive. Nothing that I have ever seen draws so many of these floating gems as the Echinacea (Rudbeckia purpurea). For some years I have had a large bed of Echinacea surrounded on all sides by half an acre of Michaelmas Daisies, and the former easily carry the day. In a part of the country where butterflies are not so common as in many districts the Echinacea will attract, often in quantities, three exquisite insects, the Red Admiral, Peacock and Comma, which flit from one huge cone to another, rivalling the glorious gold and copper tints which are such a charming feature of this plant. I suppose all butterfly lovers know the attraction of Buddleia variabilis, but if they wish to provide an earlier feast for summer they should plant a patch of the annual Statice (sinuata) blue and white, also the yellow variety (Bonduelli).—ERNEST BALLARD. *Malvern.*

FORTHCOMING EVENTS.

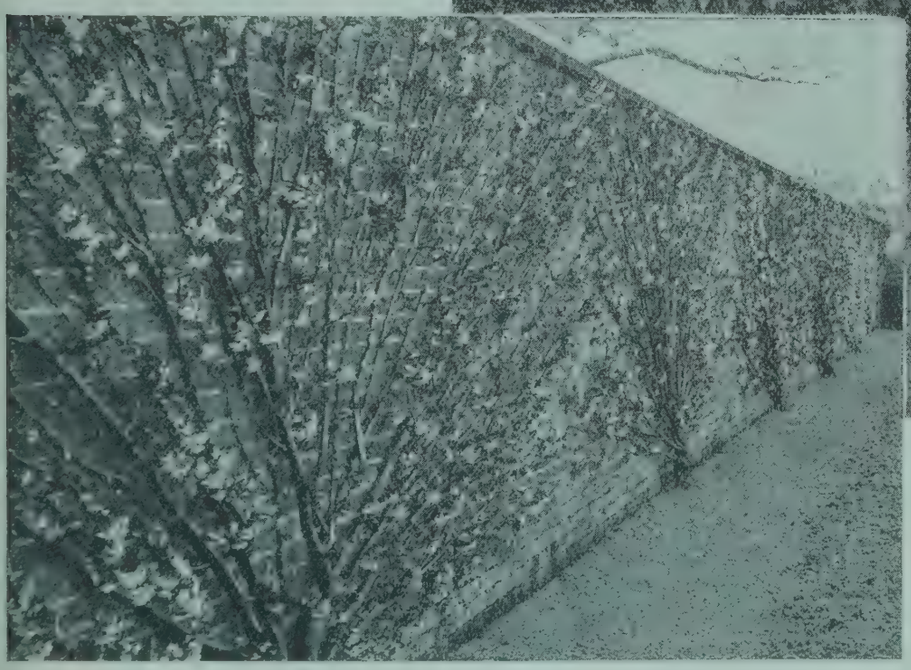
January 18.—National Rose Society's forty-fourth Annual General Meeting to be held at the Royal Institute of Painters in Water Colours, 195, Piccadilly, London, W., at 2.30 p.m.

January 25.—Royal Horticultural Society's Meeting at Vincent Square, Westminster, S.W., at 2 p.m.

More about "Anne Amateur's" Wall

In a previous issue our correspondent 'Anne Amateur" asked for suggestions as to climbing plants for north and east walls. As the subject is of wide interest, we give below further expressions of opinion from readers on suitable fruit trees and climbers, also plants for wall tops.

IN that beautifully illustrated and useful work "The Century Book of Gardening," published at the offices of *Country Life*, Ltd., there is a capital article on "Fruit Trees," by Mr. George Bunyard, V.M.H. In that article he writes: "We next come to the north wall. This position is usually relegated to Morello Cherries as fan trees at 15 feet apart, but one can also introduce a few stewing Pears, such as Catillac, Gilogil and General Todleben, and also some late Plums to continue the supply after the other wall trees and open pyramids are over. Coe's Golden Drop, Jefferson, Rivers' Late Orange, Reine Claude de Bavay and Bonne Bouche will answer this purpose, and with the Morellos plant a few of the Flemish and Kentish Cherries for tarts. Few are aware of the delicious flavour these latter give under such treatment, and they are well worthy of a wall; all require 15 feet spaces. The wall spaces between the trees can be filled with late Gooseberries say. Warrington, Rifleman; Red Currants, as Fay's Prolific and Raby Castle; and White Currants for late use, as it may be some years before the Cherries, etc., require all the space."



MORELLO CHERRIES AS FAN TREES ON A NORTH WALL.

Loganberries and the Cutleaf Blackberries will grow rampantly, but the fruit requires more sun than this aspect affords to bring out the flavour. Gooseberries in such a position fruit well and ripen a little later than when grown in full sun, and the same remark applies to Red Currants. This adds to their usefulness, and if protected from birds, as they easily can be when grown thus, the fruit will hang for a long time in good condition even after it is ripe. Another important point is that the blossom is far more likely to escape the ravages of spring frosts. I remember once telling Mr. George Paul that some shrub which I had planted on a south border was always cut by the spring frosts, and to my surprise he told me to transplant it to a northern position; yet the reason is, of course, quite clear—the warmth of a south wall starts a plant into early growth which is injured by cold winds, while if grown on a north wall it does not start into growth until the air is warm and the worst danger to leaf and blossom from spring frosts is past. Planting early-flowering and somewhat tender subjects on a south wall is a mistake too frequently made, and my old friend's tip is a most useful one, though, of course, one has to remember that such things as the Peach and Nectarine require the warmth that a south wall gives to ripen the wood on which the fruit is borne.

In a garden near here a Red Currant tree trained as an espalier in square form on a north wall, was planted in my grandfather's time, and has provided fruit year after year for half a century. It is still in healthy condition and about 7 feet high, the greatest length of the branches being trained to run in a perpendicular direction.

In a small garden economy of space is a most important feature, and to get a supply of fruit on the northern boundary wall itself from trees which only project a few inches from it is to make the best use of the space available.

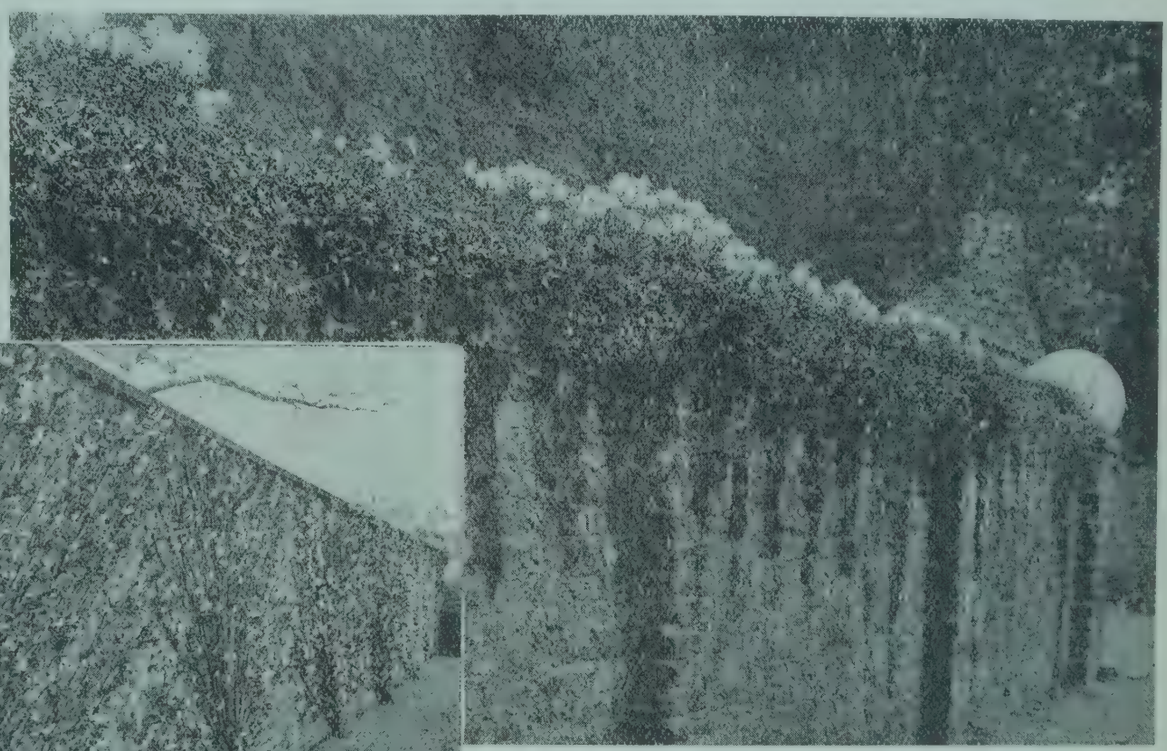
Even if the border in which these fruit trees grow is only 2 feet wide it is an ideal place for growing such things as Lilies of the Valley, Pansies, Polyanthuses, Primroses and the old-fashioned Double Crimson Daisies. It is also the best place for rooting Rose and other cuttings

I have even utilised the top of the wall. If it is an old one, Houseleeks, Stonecrops, Aubretia and Arabis will grow with but little preparation, and the seeds of Wallflowers and Antirrhinums may be rubbed into the old mortar. If it is a new wall, square pockets can easily be made with bricks without the use of mortar, and placed at uniform intervals and filled with soil and old mortar rubbish, or the whole length of the wall may be covered with large stones so placed to hold pockets of earth, which would otherwise be washed off or blown away.

The top of the wall of my own garden was soon gay with flowers from seed sown in this way, and some plants grew even on the side of the wall. On several occasions when Wallflowers and Antirrhinums were killed by severe frost in the open border those on the top of the wall escaped and continued to flower for several years in succession.

Remembering the many hints which "Anne Amateur" has given us as to the use of fruit, I venture to think that the passage I have quoted from Mr. George Bunyard's article on the value of the north wall may be of interest to her and others.

Hoddesdon, Herts. H. H. WARNER.



SNAPDRAGONS ON THE WALL TOP.

I AM afraid that I am rather late in making suggestions for climbers for north and east walls, asked for by "Anne Amateur" (THE GARDEN, December 11, page 606). I am staying with Mrs. C. W. Earle and we have talked the matter over together, and from our experience, the best things to plant on an east wall are Kerria japonica florepleno, Rose Alister Stella Gray and Rose Aimée Vibert; and on the north Garrya elliptica, Jasminum nudiflorum and a double Cherry. I have also grown Clematis davurica on an east wall with good effect, climbing over the strong branches of a Rose. I think fruit trees are not planted enough on houses. I intend having both Pears and Peaches trained against the walls of a small house I am having built on the South Coast. The double Peach is a lovely thing grown in a sheltered [illegible] flowers last well in water if picked.

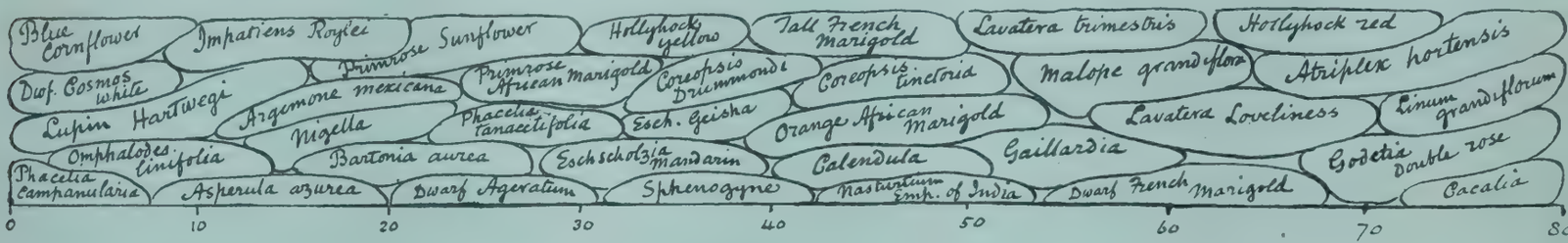
—[illegible]

BORDERS OF ANNUALS

For Light and Heavy Soils, with Plans

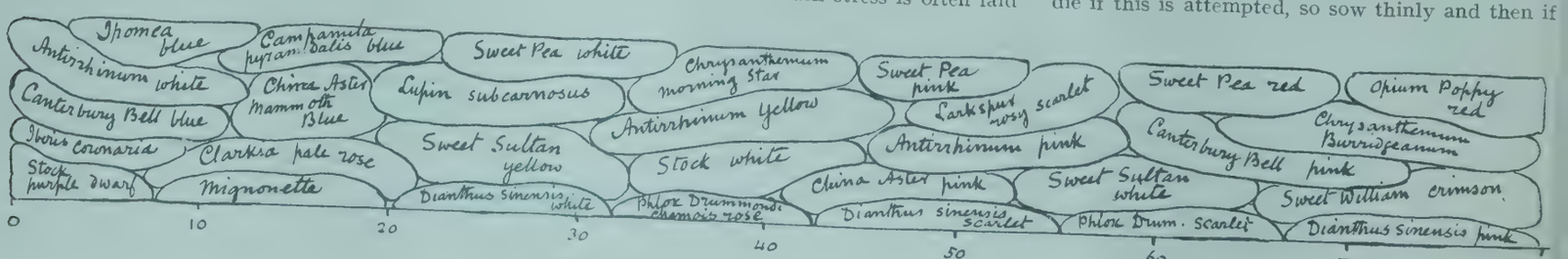
BY GERTRUDE JEKYLL, V.M.H.

Annuals for Light Soils. — There is not always in a garden an opportunity for having special borders for annuals, yet such a chance occurs from time to time, and especially now when ground is being slowly restored from the unavoidable neglect of war-time; for there are regions still infested with Couch or some other troublesome weed, such as cannot be entirely got rid of by one forking over. Here is the opportunity for the bed of annuals, to be used as what gardeners call a cleaning crop. The ground is cleared of the weeds as well as may be during the early year or the previous winter, so as to be ready for sowing in March. The annuals will cover it all the summer, and in the autumn, when their beauty is over, it will receive its final cleaning. It may be taken as a general rule that the plants that are natives of the warmer climates will be the ones best suited to the lighter and warmer soils; we therefore infer that the Californian Eschscholzia and Bartonia and the Mexican Argemone and Ageratum, and plants from similar climates, will be the ones to use; only avoiding those that, from our knowledge or experience, have shown, by their unwillingness to do well in light soil, that they demand something more nourishing. The plan of a short piece of border shows an arrangement, with some thought for suitable grouping and harmonious colouring, of some of the annuals that do well in light sandy soil with moderate enrichment.



A BORDER OF ANNUALS FOR LIGHT SOIL.

Annuals for Heavy Soils. — By a heavy soil is generally understood one that is of a stiffish loam or that has a considerable admixture of chalky matter. A number of our annual and biennial plants have a decided preference for such a soil. It may be taken as a rule that all the Cruciferæ, a large family, including many important garden plants, will only show their best on a rich, heavy soil, preferably calcareous. Here is the place for large plantings of Wallflowers, Stocks, Rockets and all the annual Iberis, of which the large I. coronaria is so fine a thing when well grown. Sweet Sultan is also a plant that grows in a poor, unwilling way in light ground, but that is grand on a good loam. Sweet Williams, some of the finest and most effective of summer flowers, will be the most important in the annual border, grown as usual as biennials; they are all good, but perhaps the prettiest are those of the cup and saucer pattern, for the spreading saucer widens the mass of bloom colour. Sweet Peas are never happy in light soils, in which they can only be grown by means of special enrichment, but they revel in a rich loam. The pretty dwarf Phloxes of the Drummondii kinds are also loam-lovers. In the accompanying plan no Wallflowers are shown because they are essentially spring flowers and are, therefore, not suitable for a border of summer annuals. But in their own place, in the garden of spring flowers, nothing can exceed their value; also in any places where a spring filling is desired, to be followed later by summer flowers.



A BORDER OF ANNUALS FOR HEAVY SOIL.

Annuals for Fragrance

"A scent. From the grey-walled gardens a breath
Of the fragrant Stock and the Pink
Perfumes the evening air."

MATTHEW ARNOLD.

WHAT a picture of a garden as it should be this conjures up. A garden mellowed by years, grey walled and fragrant at eve as the sun sinks to the western horizon, with sheltering greenness, lovely flowers and brilliant colourings. A place indeed in which to rest and be thankful after the day is done. To omit fragrance is a sad loss and in friends' gardens I have often been struck by the lack of attention paid to this point. Too much stress is often laid on colour, while the subtle elusive charm of odou is passed by, especially in the case of annua flowers. Let us have bold groups of white Tobacco Stocks, both the showy ten-week variety and i inconspicuous relative, Matthiola bicornis, which hardly noticed during the day, but asserts it presence to our nostrils in no uncertain manner a evening comes on. Broad sweeps of Mignonett etc., near to the house, so that with the gentl stirring of the breeze their perfume is wafted withi doors with the cool air through open window Many of the best are half hardy and should be sow now in a moderately heated house so as to ge them well forward by planting out time. Of these Ambrosia mexicana is very useful, with extremel pretty, fragrant foliage reaching a height of 1 foot Sow a few seeds in the centre of each pot and thi out the seedlings to a single one after well up For indoor use in the greenhouse, Angelonia grandi-flora is excellent and can be kept over from year to year. It attains a height of 18 inches and is very sweet, either the white or lilac variety being equally good in this respect. Little grown are the annual Daturas, the perfume of many varieties of which is well nigh overpowering, but they are of easy management and most attractive. D. ceratocaula, pure white, very showy and fragrant, and D. cornucopea, with flowers deep purple on the outside and white within, can both be confidently recommended for the greenhouse, the latter frequently proving a success outdoors in good seasons. Martynia fragrans, the wonderful Unicorn Plant, is more peculiar than pleasant, but well worth growing for its unique flowers and seed pods. The flowers are buff, somewhat like a Mimulus in shape and beautifully spotted on the throat, followed by huge seed pods shaped like the unicorn's horn. The Night Scented Stock should be sown outside in April, covering the seed but lightly with soil. It is a good plan to use this as a groundwork between some brilliant flower, as its only value lies in its fragrance, but by combination we may have the two together. Mignonette will occur to all in search of pleasant odour and let me put in a special word for the variety Parson's White, an attractive form that is more than usually powerful. Nothing excels the common white Tobacco at dusk, when the flowers expand, a bold mass of several dozens of these perfuming the air far and wide. An entrancing little plant, smelling strongly of Almonds, is the Lace Flower, Schizopetalon Walkeri, which should not be sown until the latter half of April, as it is only half hardy and is impossible to transplant. The roots are so delicate that they promptly die if this is attempted, so sow thinly and then if

too thick, thin out to 6 inches apart. During the day the flowers remain tightly closed, but about six o'clock commence to unfold into delicate, finely cut squares, just like lace. Sweet Peas, of course, are grand and need no more than a mention as they are so indispensable from every point of view. Sweet Sultans, too, are superb, particularly for cutting, their delicate shades appearing especially well under artificial light. These should be sown early to ensure the best results for, like the Cornflowers, they are never better than where self sown. This means that they germinate at the earliest moment and thrust their roots deeply before the heat of summer comes. H. W. C. W.

CHINA ASTERS UNDER TREES.

GROUPING HARDY ANNUALS FOR COLOUR EFFECT

By JAMES HUDSON, V.M.H.

VERY pleasing effects may be made with annuals alone, or in conjunction with other hardy plants, from the standpoint of colour simply. I have seen in two distinctly different gardens very beautiful effects made with varied shades of blue in one case, and that near to the sea; and in another with varied shades of pink and mauve, these latter being kept quite apart, although they might have been blended together. To enumerate what might be done in this way in full would take more space than can be afforded; but the suggestion made may be the means of setting garden-lovers thinking of what may suit their individual tastes, and with a careful selection be suitable to the situation or locality.

Blue-flowered Annuals.—I will enumerate a few blue-flowering annuals that may be so used. Viscaria cœrulea, a rather uncommon plant, pale blue in colour and one that lasts well; Anagallis linifolia cœrulea, a Gentian blue, dwarf in growth, thriving better in poor soil; Linum perenne, a lovely shade of blue, flowering for a long period, an annual well deserving of extended culture; Nemesia hybrida Blue Gem, which I have recently heard well spoken of; and Nemophila insignis, bright blue with white eye.

Pink Flowers.—In shades of pink there is also a good choice, but probably not quite so many dwarf-growing plants. Here Sweet Peas will provide a wide range of colour. I have seen these used with a lovely effect in conjunction with Clarkia elegans, C. pulcherrima and C. integripetala. These, if well cared for, will last a long time in flower. The pink shades of the Candytuft will supply an excellent variation of rather dwarf plants, also lasting well if not grown too thickly. The pink forms of Aster sinensis will serve a useful purpose, especially late in the season. There are also varied shades of pink to be found in the Godetias, bordering somewhat on to rose, no doubt, but still admissible. Lavatera splendens rosea is a distinctly useful annual of robust growth, growing and somewhat prostrate Zinnia Haageana, in three or more shades, are valuable, not only from the point of effect, but also for their enduring character. The dwarf-growing Marigolds, also the Tagetes, are very effective and last a long time in flower. In Dimorphotheca aurantiaca we have an extremely useful yellow annual, and one that rather enjoys a dry situation. Of this annual and D. pluvialis we have also a selection of hybrids, all of which will, I think, blend with the yellows. Any reliable catalogue will supply a further choice.

Crimson-Coloured Annuals could easily be found in a seed catalogue. Among these the Coreopsis will be found most enduring, likewise Linum grandiflorum coccineum and Viscaria cardinalis. In using these, however, I should, personally, be disposed to tone down the colour by using other annuals with white flowers. For fences where rapid growth is needed, nothing surpasses the Tropæolums, from the yellow T. canariense to the T. Lobbianum, in great variety.

ANTIRRHINUMS IN A BORDER OF HARDY FLOWERS.

wants support; Linaria maroccana, in the blue shades of colour and varied; Asperula azurea setosa, light blue and fragrant; Aster sinensis, in the blue shades only; Sweet Peas, the pale blue, lavender, heliotrope and dark blue shades; Brachycome iberidifolia, the blue shades, suitable alike for beds and rockwork; Centaurea Cyanus, in the blue shades; Eutoca viscida, a beautiful shade of blue and of compact growth; Phacelia campanularia, better in a poor soil than otherwise. The shades of pink in Phlox Drummondii further enhance the list. Viscaria elegans picta, as a somewhat dwarf plant, is useful and distinct; Silene compacta varieties, as prostrate-growing annuals, are very effective.

Yellow and Orange Flowers.—In varied shades of yellow and orange there is a wide choice, notably among the Calliopsis (or Coreopsis). The dwarf

ANNUALS AS BEE FLOWERS

In making out the seed list for the coming season, the bee-keeper should always include some annuals which are sought after by bees, either for the sake of their nectar (remember no flower contains honey), or for their supply of pollen which is such an essential food for the young larvæ.

The following is a short list of hardy annuals beloved of the honey bee. Any or all are worthy of a place in the flower garden. Alyssum maritimum; Centaurea Cyanus, common blue Cornflower; Clarkia pulchella; Coreopsis tinctoria; Cynoglossum Wallichii, a little known annual, about 9 inches high, with deep blue flowers similar to a Forget-Me-Not, it blooms best in a poor soil; Eschscholzia californica and its many varieties; Gilia tricolor; Iberis umbellata, the common Candytuft; Limnanthes Douglasii; Nemophila insignis and N. maculata; Nigella damascena Phacelia campanularia, P. tanacetifolia, P. viscida and P. Whitlavia; Reseda odorata, the common Mignonette, thrives best if plenty of fine mortar rubble is mixed with the soil before sowing Saponaria calabrica; Schizopetalon Walkeri Silene pendula

All the annual species of Poppies are much sought after by bees for the sake of their pollen

ANNUALS SUITABLE FOR POTS

A variety of Annuals may be grown in pots in a greenhouse to bring into conservatory or dwelling-room for indoor decoration when in flower.

DURING the last few years many stoves and greenhouses have lost much of their former glory, plants having died owing to the lack of fuel or they have been discarded in consequence of the labour shortage. Now we are getting back to something like the normal, many of these houses will be re-stocked with flowering subjects, and during what is known as the transition stage we cannot do better than employ various annuals to furnish a display. They are of easy culture and very little fire heat will be needed.

Among the best for this purpose will be found the Clarkias of the elegans class; they embrace Scarlet Beauty, a really fine salmon scarlet with double flowers; Salmon Queen is fine; Firefly a vivid rose crimson, and several others of equal merit. They make ideal pot plants, excellent for cutting, and grow about 3 feet high.

Antirrhinums are always admired and great improvements have been made during recent years, both in regard to colour and the general habit of the plants. Nelrose should be selected if only one kind is grown, but any catalogue will give sufficient variety to satisfy the most fastidious taste.

Sweet Peas of the winter flowering group are also excellent subjects, and with a little extra care and attention when admitting air and giving water they may be had in flower soon after Christmas. They are offered in several colours, such as pale mauve, dark blue, crimson, white and pink, and they are a great improvement on the Cupid type. Mildew is their chief enemy, but I have found an occasional spray with a weak solution of Cyllin Soap a most effectual remedy. Sow several seeds in small pots at once, and when these are fairly full of roots transfer to their flowering size, viz., pots 7 inches to 8 inches in diameter. Grow in a cold frame till the beginning of October, then remove them to the cool greenhouse where they will flower.

Mignonette is usually a favourite on account of its delightful fragrance, but only the dwarf forms should be chosen. It is best sown in 5-inch or 6-inch pots and then thinned out to about three plants. Make the soil rather firm.

The Schizanthus are well known, being beautiful free-flowering half-hardy annuals, particularly the grandiflora hybrids and some of the dwarfer kinds. For a spring display seeds should be sown from August to October, and they make fine plants for dwelling house decoration. The seeds may be sown in pans, and the seedlings potted off when large enough, or several seeds can be placed in small pots and then thinned out, leaving three of the largest plants.

Scabious and Salpiglossis are also useful for pot work, while many others will occur to the thoughtful cultivator.

Among the half-hardy annuals Salpiglossis sinuata is one of the very finest for growing in pots. It readily responds to good cultivation, when it grows to a height of 4 feet, and gives a grand display of its charming bloom. No doubt many readers remember the wonderful display of Salpiglossis shown by Messrs. Sutton and Sons at the last Chelsea Show. The flowers are trumpet-shaped, and it is one of the annuals that it is safe to grow with the colours mixed, for though the colours range through many shades of yellow, red and purple, they are all of a harmonious quality, and the richness of the tinting is increased by a deeper veining. Salpiglossis should be sown in heat at the end of February. The seed is minute, and should only be just covered.

As stated above, there is nothing difficult regarding the successful cultivation of these plants; for general purposes seeds should be sown in August and each plant should be given a separate existence as early as possible, excepting the Sweet Peas and Mignonette. Ordinary potting compost, such as a mixture of loam, leaf-mould and sand, will suffice, with ample drainage material in the base of the pots. Most of the plants will flower in 6-inch and 7-inch pots, but during the winter months all the light possible is needed and air must be admitted on all favourable

THE BEAUTIFUL SALPIGLOSSIS ARE EASILY GROWN IN POTS.

Careful watering is also essential or some will damp off, especially among the Clarkias. A light airy position such as a shelf in the Peach house is an ideal spot for these plants, and during their growing period it is advisable to pinch out the centre of the strong growths to encourage side shoots. This is done in the early stages. Green-fly must be held in check by occasional fumigations.

T. W. BRISCOE.

Annuals to Sow in Heat

A CERTAIN number of annual plants whose native place is a much warmer climate than ours would only move very slowly, perhaps not at all, if sown in the open. They are those that we class as half hardy and are sown in pots, pans or boxes in a frame or greenhouse, to be pricked off into other boxes when they are large enough to handle and are finally planted out at the end of May or quite early in June for summer display. Some of them are, in fact, perennials, but have been found to give a good show in their first year and are, therefore, suitable for our use as annuals. Pentstemons and Antirrhinums are examples of such plants. The Snapdragons will be among the first to be sown, in February, so that they may be pushed on and get to flowering strength as early as may be. Lobelias and Ageratums will also be sown early, and some of the large things of fine effect that are so often forgotten, such as the large Solanums and Daturas. The latter are really perennials, but used as annuals with us—grand subtropical plants of American origin. Thunbergia alata, a trailing plant with buff or orange flowers and a black eye, is more often grown for the greenhouse than the open garden, but will do well on a warm, sunny bank. Torenia Fournieri, another old favourite, is also raised in heat as a greenhouse pot plant; it should be more generally grown. The beautiful Ipomœa rubro-cœrulea (Heavenly Blue) must also be sown in heat and pushed on for planting out in early June with other tender climbing plants such as Mina lobata, Maurandia Barclayana, Cobæa scandens and the blue Passion Flower. Lobelia and Ageratum may be sown early to be followed by Petunia, Dimorphotheca, Phlox Drummondii, Dianthus Heddewigii and Sphenogyne. Among the latest to be sown should be Sunflowers and the French and African Marigolds, for they germinate quickly and soon get drawn.

G. J.

Pentstemons.—Where wintering these most valuable plants in cold frames, they must be well aired upon all suitable occasions; also such subjects as Antirrhinums and Calceolarias, always remembering dampness is a greater enemy than frost to many such subjects. The same remark applies also to the Brompton Stocks, another most useful batch of plants; where these are growing in shallow beds in cold frames, a number could be potted up now, if required, to augment

THE BEST ANNUALS FOR LATE DISTRICTS

Varieties that will Succeed in any Cold Situation.

THE time has now arrived for the ordering of the different seeds for the garden, and as many amateurs, and not a few professional gardeners, are sometimes at a loss to know just what is likely to succeed in their districts, a few notes on annuals, hardy and half-hardy, may, I hope, be of service to some of the readers of this journal who are in any doubt on the subject. My notes are based on an experience of seventeen years in one locality, so the information may be relied on. Several of the kinds mentioned are really perennials, but invariably give the best results when treated as annual plants.

Antirrhinums.—Few plants have come more to the front for bedding purposes during the last six or seven years than the homely Snapdragons. That they have been wonderfully improved goes without saying. While all sections are useful in their way, I much prefer the intermediate, as they flower profusely and are less formal than the dwarf kinds, while they require no staking. The shades of colour are now so varied that all tastes may well be satisfied. Particularly good are Barr's Queen of the North (white), Barr's Yellow, Barr's Scarlet, Sutton's Deep Crimson, Sutton's Fire King, Sutton's Carmine Pink and Sutton s Bright Crimson. Sow the seeds in heat about the end of February.

Nemesias.—I have grown these gorgeous flowers for about fifteen years, and consider them the finest of all dwarf annuals. They succeed in all kinds of seasons, and in this district, at all events, no other plant can give such a display in beds or borders. The large-flowered, or Suttoni section, is the more brilliant, but Sutton's dwarf hybrids are much preferred for bedding, as the plants are more floriferous and branch out beautifully. Many fail with these fine flowers by sowing too early and in too high a temperature. Give only very moderate heat to germinate the seeds; never more than 60°. The seedlings are rather tender at first, but as soon as they are pricked off they manage to gain strength.

Dimorphotheca aurantiaca.—I have grown this for three successive seasons, and it gives a very fine display. Sow the seeds during the first half of March and treat just like China Asters.

Double-flowered Pot Marigold.—This I find gives a great display in large beds. Treated like a half-hardy annual, the blooms are much larger and more double. Sutton's Orange King is very fine.

Stocks.—The East Lothian Stocks, if sown in heat not later than the middle of February, give much more satisfaction than the Ten-week kinds. Forbes' or Methven's strains are probably the best to be had anywhere.

Mimulus.—Sutton's Giant Mimulus, treated as a half-hardy annual, gives a wonderful display on a damp north border. Sow in March and treat just like Asters.

Nigella.—A grand hardy annual, the variety Miss Jekyll being the best, both as regards size and colour. It is best sown thinly during the last half of April where it is to bloom.

Candytuft.—The large white Spiral Candytuft makes a very fine bed, and blooms for a much longer season than the older varieties.

Lupines.—Sutton's atrococcineus is by far the best of the annual Lupines here. Sow where they are to flower towards the end of April. Thin out well.

HYDRANGEAS IN TUBS ARE USEFUL FOR HIDING BARE PLACES.

Shirley Poppy.—A good strain—we grow Barr's—makes a very effective bed and blooms for a long season.

Nemophila.—This homely little annual flower is much admired when sown in a large mass. Must be well thinned while still in a small state.

Eschscholzia.—One of the best flowers for dinner-table decoration in small vases if picked when only half open. Carter's Carmine King and The Mikado are fine, as is Mandarin. Sow on poor soil.

Mignonette.—Barr's Covent Garden Favourite is a giant Mignonette with a delicious scent. It blooms for a long period if sown on good soil in which some lime rubbish has been mixed. Thin to 9 inches apart

Malope. This annual is very effective in large beds or as clumps, and is excellent for cutting

It is a mistake to sow hardy annuals too early in late, cold gardens, as slugs do so much harm when growth is slow. The last half of April and the first week in May I have proved to be best suited for this locality.

C. BLAIR

Preston House, Linlithgow.

Hydrangeas in Tubs

THE value of the large-flowered Hydrangeas for culture in pots or tubs is now generally recognised by all good gardeners, but it cannot be said that they are used for this purpose so extensively as they might be. As will be seen in the accompanying illustration, the use of a few well-grown specimens will often transform a bare and comparatively ugly place into a home of beauty. As the flowers are produced during several months of late summer, and the plants need little attention beyond watering and an occasional application of a recognised fertiliser, these Hydrangeas may be regarded as plants giving an abundance of blossom for the minimum amount of labour. These may be had with creamy white, pink and blue flowers. Although hardy in many districts when planted out, those in tubs should be given the protection of a cold greenhouse or outhouse for the winter months, when they will naturally be in a dormant state.

Rock and Water Garden.—Should alterations be in hand, speed them up upon all favourable occasions so as to allow time for the settlement of materials before planting is done. In carrying out entirely new work, endeavour to do so in sympathy with the established features of the garden or woodland, and avoid, if possible, creating artificial hills and other features where hopelessly out of pl

SOWING-TIME

WHAT TO DO NOW AND HOW TO DO IT

BY THE EDITOR.

HAVE you ordered your Sweet Peas and other annuals—your Peas, Broad Beans, and the general run of kitchen garden crops? If not, let me advise you to delay no longer. It was a pity to have missed opportunities at sowing-time last year. Do not neglect to sow this spring.

Sowing under Glass.—With many seeds it is best to sow in frames, afterwards pricking off the seedlings and transplanting outside. It is a great advantage to sow in pans or boxes. A very convenient sized box is 14 inches long, 9 inches wide and 3 inches deep. Old kipper boxes are very suitable for the purpose. If there are only a few seeds of a particular plant to sow, then the box may be divided by placing a stick or sticks across. The box must be well drained with crocks and rough leaf soil. A suitable compost for seed sowing consists of two parts of loamy soil and one of leaf mould, with one part of coarse sand. Pass this through a quarter-inch mesh sieve, using the rough stuff remaining in the sieve to put in the bottom of the box for drainage. Fill the box lightly with the soil, then press down moderately firm with a flat board.

How to Sow.—If there is one thing more than another that the beginner needs to be warned against, it is thick sowing. No matter how often this warning is given it is seldom fully accepted, and thousands of seedlings are wasted every spring because they are too thickly sown. Large seeds like those of Peas and Beans can be placed separately an inch or so apart. For smaller seeds the following method, which has been adopted by a reader of THE GARDEN, may be followed: "Take an ordinary flour dredger made of tin and sow your seeds from it, or, if very fine seed, a common pepper pot is best. And the seeds should be mixed with fine sand or soil."

Some Annual Flowers for Spring Sowing.—It should be observed that annuals do not need the same amount of stimulating food as perennials. Indeed, to get the best results from most annuals a soil that errs on the poor side is essential (an exception to this is the Sweet Pea, but even with this charming flower, when needed only for decorative purposes, many growers attach too much importance to manure). Among the annuals that should be sown next month are: Asters, especially those of the beautiful Comet section; annual Larkspurs—among the most popular of all blue flowers; Stocks; and Love-In-a-Mist. Snapdragons, although not strictly annuals, are best sown early in the year in boxes, and hardened off for planting out about the second or third week in April. Quite a number of beautiful Snapdragons have been introduced during recent years, a few of the best being: Sunset, Crimson King, Moonlight, Cottage Maid and Nelrose.

Sowing Seeds Outside.—No frame or greenhouse is necessary to raise the Wallflower from seed. Sow them on a spare piece of ground during April or May. Perhaps the best method is to sow Wallflower in shallow drills, as shown by the illustration on the opposite page. The drills should be 1 foot apart. The surface of the soil is raked to a fine tilth, and the seeds are covered to a depth of 1 inch to 1½ inches. A sprinkling of lime or soot over the ground will assist in keeping away slugs and snails from the tiny seedlings.

SPRINKLING SEEDS ON FINELY SIFTED SOIL IN A SEED BOX.

PRICKING OFF THE SEEDLINGS WHEN JUST BIG ENOUGH TO HANDLE.

The following annuals may be sown in April where they are to flower: Poppy, Mignonette, Miss Jekyll's Love-In-a-Mist and Larkspur. The sowing may be broadcast, *i.e.*, thinly all over the surface, or they may be sown in shallow drills as recommended for the Wallflowers.

Sowing Peas.—Before sowing it is essential that the ground should be trenched and enriched with well rotted manure. Let the manure be thoroughly incorporated with the soil as the ground is turned over. Sow this month in shallow trenches, as these offer protection for the seedlings. It is just as well to take the precaution of coating the seeds with red lead before sowing, and, where mice abound, traps should be set. The seedlings should be thinned out to about [illegible]

There is no excuse for sowing as thick as Mustard and Cress. It is advisable, however, to sow twice as thick as the plants are to remain—that is to say the seedlings should be about 1½ inches apart, and each shallow trench should contain a double row. Protect the seedlings in their early stages from birds either by pea guards or by placing strands of black thread criss-cross over the rows. This should be done immediately after sowing. For an early gathering on a sunny border, Pilot is one of the very best. For succession, Duke of Albany, Quite Content, Gradus and Discovery are reliable, while Rearguard, Gladstone and Autocrat are hard to beat as late varieties.

Annuals for Poor Soils

Nasturtiums if grown on rich soil become masses of foliage with but few flowers, or if flowers are produced they are hidden by the taller-growing foliage. The soil should be deeply dug early in the year, leaving the surface in a rough condition until the time for sowing the seed. Aeration of the soil is most important.

Alyssum minimum makes an effective edging, growing close to the ground with small white flowers which are most freely produced until late in the autumn.

Cornflowers.—One of the hardiest of annuals, in many shades. The pink is a charming colour, and all are most useful for cutting.

Coreopsis.—Often seen growing in town gardens under conditions far from suitable for the cultivation of many plants.

Eschscholzia.—Many new varieties have been introduced during recent years. One of the most notable is the Geisha, the outer side of the flower being orange crimson and the inside golden yellow.

Eutoca viscida.—Profuse blooming, with bright blue flowers suitable for bees.

Linum grandiflorum rubrum is an elegant free-flowering hardy annual with brilliant scarlet flowers.

Linaria.—Annual Linarias are very hardy; they produce varied coloured flowers resembling miniature Antirrhinums and are very suitable for the supply of cut flowers.

Matthiola bicornis (Night-scented Stock).—Should be grown in every garden for the exquisite perfume which it so freely exhales during the evening.

Nemophila.—Well known and largely grown

to the better known blue, which are very attractive.

Phacelia campanularia.—A very early-flowering annual with bright bell-shaped blue flowers which last a long time.

Annual Poppies.—Many of these will grow well on a poor soil. Although the flowers could not be compared in size with those recently described in THE GARDEN, Shirley Poppies have been grown on a poor gravel soil. The Peacock Poppy (Papaver pavonium) and the Tulip Poppy (P. glaucum) are also good varieties for this purpose.

Salvia Blue Beard.—Self-sown plants of this annual have often appeared on a brick-paved path, the rooting medium being pure red sand in which the bricks were set. COLIN RUSE.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Bedding Plants.—Where there is a great demand for such plants as Geraniums, Iresine, Coleus, Salvias and Heliotropes, propagation will now call for serious effort. By introducing the old plants which were potted up in autumn into a warm, moist atmosphere an abundance of suitable cuttings will soon be available.

The Kitchen Garden.

Onions.—Where large bulbs are appreciated, or required for exhibition, seed may now be sown in boxes or pans of light rich soil and placed in a Vinery or Peach-house with a night temperature of about 50° Fahr. Plants thus raised are practically immune from the Onion maggot, a valuable point where this pest is frequently troublesome.

Broad Beans.—As soon as weather permits and soil is in suitable condition, another sowing may be made to follow those sown in autumn. Should frames be available, or sufficient space for growing in pots or boxes for early work, the outdoor sowing may be postponed for a while. It is a good plan to sow in boxes and transplant.

Peas.—It is almost impossible to get this much appreciated vegetable too early and, if possible, some frame room or portion of a cold house should be devoted to them. Sow also in boxes for transplanting on warm outside borders as soon as conditions permit.

Carrots.—If not already done, a sowing of a quick maturing variety on a gentle hotbed will be found most useful. Radishes may also be sown, and a sowing of an early Cabbage Lettuce will soon come along, if encouraged, and will be much more appreciated than the autumn-sown batch.

Potatoes.—These may be grown in pots, boxes or narrow borders in cool houses to furnish the first supply. If grown with other subjects see that plenty of light and air reach the plants. Probably the best results are obtained when they are grown in frames on a gentle hotbed, taking care to well cover the frames on cold nights as soon as growth is through the soil. If the frames are heated less importance is attached to this operation.

The Hardy Fruit Garden.

Black Currants.—Where big bud is very bad the trees should be grubbed up and burnt, but in some cases hand picking of the offending buds may be sufficient. The method of culture adopted by some market growers of this fruit appears to me an excellent plan for combating this pest. When making a new plantation, so plant that every other bush may be cut down to the ground each season. There is thus always a young and vigorous plantation to rely upon.

Loganberries.—This is one of the best fruits for bottling, and where the demand is keen for fruit so preserved it can be thoroughly recommended. It is also a commendable jelly fruit. The culture is of the simplest, merely removing old canes and weakly or superfluous young ones during winter months and regulating those retained. It is not a bit fastidious as to soil, and I have seen good fruit gathered from plants grown in almost any aspect.

Outdoor Vines.—Pruning may now be carried out, cutting back to one or two good eyes, unless required for extension, when the deciding factor must be the ripeness of the young canes. If this is satisfactory 3 feet to 5 feet is not too much to leave.

Plants Under Glass.

Herbaceous Calceolarias.—A batch of these certainly make a gay display when in flower, but whether of much decorative beauty is open to question. Avoid a dry or high temperature, and watering must always be carefully attended to. An occasional fumigating should be given to help keep them clean.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Albury Park, Guildford, Surrey.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cauliflowers in Frames.—Where these are wintered in frames for planting out early, care should be taken that they are grown as sturdily as possible; giving an open exposure on all good days, and eaving a chink of air on the frames at night unless the weather is very severe.

Tomatoes.—A sowing should now be made so that an early crop may be obtained; a nice warm pit is necessary for this sowing, otherwise there is much trouble through damping during dull weather. Carter's Sunrise and Ailsa Craig are two fine varieties for early work, being free setting, of good flavour and medium size.

Cucumbers.—A first sowing should now be made, a good plan being to sow singly in 3-inch pots and grow on in the stove; they can afterwards be transferred to a suitable forcing pit or a good hotbed. Sutton's Improved Telegraph is an excellent sort for early cropping.

Plants Under Glass.

Carnations.—The second lot of newly-struck cuttings of Tree Carnations should now be potted up, using 3-inch pots for this purpose; a fine compost should be given the plants to work in. If in a fairly warm temperature spray occasionally until root action begins, then place on a shelf as near the glass as possible.

Calceolaria Clibrani.—This elegant and useful subject is now throwing out strong shoots, so should be staked with 4-feet tapering canes; care must be taken, as the growths at first are most brittle and easily broken. Where two year old plants are grown, it is not unusual to see specimens 5 feet in height. For conservatory decoration during April it is unsurpassed

Forcing Shrubs and Bulbs.—Azaleas, Rhododendrons and a few plants of Staphylea colchica should now be put into heat to keep up the display later; both Spiræa confusa and Spiræa arguta multiflora are also excellent for forcing. Hyacinths and Tulips promise well and a number of these should be lifted from the forcing boxes before flowering fully and placed in bowls, with the addition of a few Ferns for drawing-room decoration.

Cold Frames.—Cuttings of Violas, Pentstemons and other subjects should be looked over occasionally and the frames always kept well aired during open weather. Pick out all decayed leaves and encourage hardy growth.

Fruit Under Glass.

Vines.—Where there may only be two Vineries in the establishment a very suitable time to close down the early house is about the middle of this month; keep a nice regular temperature, gradually increasing it as the buds break. Differences of opinion arise as to the temperature of early Vineries, but rather err on the cool side than have it too hot. In excessive heat the consequences generally are weak wood and foliage that can ill resist the attacks of insect pests, with which we are all more or less familiar.

Peaches.—The second Peach-house may now be closed, but it is not advisable to have much fire-heat for the first week or so. When a little artificial heat is admitted, syringing may be commenced; but discretion must be used, and during dull weather the damping of the paths will suffice. When the sun-heat causes the temperature to rise to about 65° air should be admitted, but care must be taken to close down the house as soon as any falling of the mercury takes place.

DRILLS MADE READY FOR SOWING WALLFLOWER SEED.
They should be 1 foot apart, and, after sowing, the ground should be sprinkled with soot to keep slugs and snails away.

The Pleasure Grounds.

General Work.—Many shrubs transplant well at this time, and if any have outgrown their bounds and are still suitable for transplanting they may be used with advantage for filling any vacant spots, while many an unsightly part may be made beautiful by the judicious arrangement of a few of these large shrubs. Pruning may also be done; strong growing subjects, like Laurels and Rhododendrons, may be cut hard back if necessary, but many of the rarer or weaker growing sorts should just be lightly trimmed into shape and any dead wood cut out. Plants suitable for autumn colouring should not be missed out when planting takes place. Pyrus arbutifolia is not often used, but is beautiful, as are also Rhus cotinoides (Chittam Wood) and Euonymus atropurpureus. Coloured bark should also be thought of when planting, few things being more attractive than Dogwood and coloured Willows, especially against a snowy landscape; while as a tree the Silver Birch is always a distinct feature in the pleasure grounds. JAMES MCGRAS
Gardener to Sir Henry H. Houldsworth, Bart.
Coodham, Kilmarnock, N.B.

CHINA ASTERS and HOW to GROW THEM

No Garden is Complete Without these Old-world Flowers

THE China Aster is at home in every English garden, from the largest to the small cottage garden. They are old-fashioned flowers of happy associations, and no garden is complete without them. Their cultivation is quite simple. A child may grow them. The earliest plants are raised under glass, either in a warm frame or greenhouse, and the present is quite early enough for the first sowing. Another batch should be sown towards the end of March, and for this a cold frame answers well. Outdoor sowings may be made, where the plants are to flower, from the middle of April until the second week in May. Sown at different times as suggested, Asters may be had in flower over a considerable period. For sowing under glass, use boxes or pans about 3 inches deep, and see to it that they are well drained. Good loam two parts, decayed manure or leaf-soil one part, and sharp sand one part, the whole passed through a half-inch-meshed seive and thoroughly mixed, makes a good soil for seed-sowing. After the boxes or pans have been well drained and some rough soil placed over the drainage, fill the receptacles with the sifted soil, so that when it is pressed moderately firm it is rather more than half an inch from the top. Scatter the seeds thinly and cover with sharp, clean sand. This is better than soil, as it keeps the collars of the seedlings comparatively dry, and so prevents decay, usually known as damping off.

Seedling Asters should always be grown as sturdily as possible, and with that object in view afford them all the ventilation that is reasonably possible from the outset. It is safe to assert that many thousands of plants are annually ruined through being subjected to too much artificial heat; those sown at the end of March and grown on in an entirely cold frame are usually the best.

When the seedlings are about 1½ inches high, they must be pricked off 3 inches apart into other boxes or pans filled with soil similar to that advised for seed-sowing, except that it need not be so finely sifted. Shade from sunshine for a day or two after pricking off, and then grow on as near the glass as possible so as to keep the plants sturdy. Towards the end of April and during the first week of May remove the frame-light altogether during the daytime, and about the third week in May the plants may be safely planted out in the open.

Chinese Asters appreciate a rich and rather cool soil, hence where they are to be grown should be deeply dug and rather heavily manured, using manure that is fairly short and well decayed, and see that it is thoroughly mixed with the soil. About a foot apart each way is a good distance to plant Asters. The accompanying illustration, which aptly portrays the flowering capabilities of Asters when well grown, is from a photograph taken in the gardens at The Old Hall, Fritton, near Great Yarmouth, Norfolk.

Orchard House.—The thorough cleaning of the trees and structure being completed, the house may be closed. Artificial heat must at all times be sparingly used. Air freely when outside conditions are favourable, and always aim at creating cool and natural conditions, as undue hastening of the flowering period will almost inevitably spell disaster, or at any rate unsatisfactory returns. Where the trees are growing in the borders, it may be necessary to apply a top-dressing, the chief portion of which should be good fibrous loam made thoroughly firm. Avoid all mulching until the sun has warmed the soil.

CHINA ASTERS IN A NORFOLK GARDEN

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS. — *The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

TREES AND SHRUBS.

PRUNING THUYAS (*Joe B., Sussex*).—If the Thuyas planted as a hedge appear to be suffering from the transplanting, it would be wise to prune them a little at once If, however, they appear to be all right, leave them alone until spring. One must be guided by the condition of the plants as to the amount of pruning necessary.

PROPAGATION OF ILEX AQUIFOLIUM FRUCTO-LUTEO (*Essex*).—Ilex Aquifolium var. fructo-luteo or fructo-aurantiaca can be increased by inserting cuttings of young shoots, about 4 inches long, in sandy soil in a cold frame or under a hand-light in July. Seeds can be sown, but the seedlings will vary a good deal in the colour of the berries, a large percentage of them probably being red. It is therefore necessary to fruit the plants before placing them in permanent positions. Another method of propagation is to bud or graft the variety upon stocks of the common Holly. This, however, is an objectionable practice, for there is a distinct tendency for suckers to appear from the stock and interfere with the development of the scion.

THE GREENHOUSE.

BEGONIA GLOIRE DE LORRAINE FAILING (*J. S. C., Ayr*).—Something has been amiss with the watering or the ventilation of the house in which the Begonia is growing. So long as the affected parts of the plant are not used for purposes of propagation, cuttings may be taken without fear.

HOW TO COMBAT THE CHRYSANTHEMUM MAGGOT (*Yorkshireman, Doncaster*).—The pupa of the Chrysanthemum maggot is often in the soil and the fly is therefore able to attack plants in spite of the old plants being burned. There are two ways of combating it. The plants may be sprayed with paraffin emulsion. The smell of the paraffin is obnoxious to the fly, which is thus deterred from laying its eggs. After the maggots hatch out and begin to burrow, spraying with a nicotine wash will do much to lessen their number. The wash may be made by dissolving a quarter of an ounce of nicotine and 5 oz. soft soap in three and a half gallons of water. If only a few plants are involved the maggots contained in the burrows may be killed by pinching the leaves between finger and thumb.

FRUIT GARDEN.

DAMAGE TO MAIN STEM OF AN APPLE TREE (*G. H., Sheffield*).—Our correspondent does not say whether the bark has been cut through all round the stem or not. If it has, the probability is that the tree will die. If only part of the bark is broken, the tree will live, and the bark grow over the wound in time. If the bark is not broken, but simply pressed down, nothing can be done mechanically to raise the bark. The action of growth may serve to raise it slightly as time goes on, but the indentation, more or less, will remain. If the indentation is not too deep, we do not think the damage need cause much permanent injury to the tree.

SCALE ON APPLE TREES (*B L, Epsom*).—It will be safe to spray the trees with caustic wash at the rate of 2lb. of caustic soda to ten gallons of water. Harm is not likely to result if this is done by the middle of February and is not repeated every year at that strength. In summer spray about the second week in June with a nicotine wash (see reply to "Yorkshireman, Doncaster") to kill the young scales which will then be feeding on the branches.

KITCHEN GARDEN.

SEED GROWING (*R. A., Australia*).—Carrots are very liable to cross-fertilise. The distance apart which would be safe would depend upon the kind of insect which is prevalent. They should be grown as far apart as possible and if within a mile some attractive plant like Parsnip might be planted half way. Peas are practically always self-fertilised and may therefore be planted in proximity to one another.

STRAWBERRIES ATTACKED ("*Strawb,*" *Cheshire*).—The insect which is attacking the roots of the Strawberries is the cockchafer larva. It is difficult to deal with in the soil, but it would be well to dig up the plants and examine them, and to destroy any of the pests. If the plants are replaced immediately this may be done

MISCELLANEOUS.

PLANT BREEDING (*R. A., Australia*).—Our correspondent will find a great deal of information on this subject in "Principles of Mendelism," by Professor W. Bateson, and in "Variation and Heredity," by W. H. Lock. The methods of crossing depend so much upon the structure of different plants that we cannot in a short reply such as is possible in these columns give anything like a comprehensive account. In brief, it consists in the transference of pollen from one flower to the stigma of another, guarding against the intervention of undesired pollen at every stage. The chief dominant characters in Peas are tall or dwarf, round over wrinkled, seed coloured over white flowers, yellow over green seeds. Very few characters have been thoroughly worked out for Tomatoes, but coloured fruit is dominant over albino.

BOX EDGING, FOR AND AGAINST

A GARDENER is generally considered an egoist; although as a general rule I plead "not guilty," the capital "I" rose to the surface when reading a recent paragraph by "A. T. J." against the use of Box edging. I felt that from personal experience I must defend it. In any case, it was hardly kind on his part to pour forth abuse and retire from the field without even mentioning a worthy substitute. May I state that five years ago I planted Box as an edging to three-quarters of my garden paths. It is only necessary to clip it once a year, and after five years it is barely 6 inches high. It can be taken with ease round curves or planted in straight lines as required and is always green and fresh-looking. It is not my experience that plants in the herbaceous borders are either starved or eaten to death by slugs in consequence of its use. I have tried a variety of edgings and am convinced that Box is the best for all-round use. Saxifrage and Aubretia are evergreen, but get very ragged and provide a cosy shelter for nice fat snails and slugs; Thrift likewise. Of course, one can always fall back on tiles or bricks or cement, but the ordinary amateur is not a man of unlimited means. My Rose plot is 36 feet by 26 feet, and round that I allow the Box to grow 1½ feet high. I may be wrong, but to me it seems to afford some shelter from cold ground winds to the base of the Roses; perhaps the trees on the outside do not make such strong growth as the favoured ones in the centre, but J. B. Clark provides me every year with shoots 8 feet to 10 feet long for pegging down, while two old favourites, Mme. Charles and Anna Olivier, and its modern daughter, Ophelia, grow and flourish as if the Box edging were a mile, instead of only 1 foot, away. Nor can I say that the perfume of the Roses has ever been masked by the smell of the Box, possibly because this never flowers with me when used as an edging. I confess I am old-fashioned enough to choose a Rose as much for its scent as for its beauty of form and colouring. Of course, Frau Karl Druschki is scentless, but Gruss an Teplitz provides sufficient perfume for both. To me the ideal edging is a grass band about 9 inches wide—but that involves constant labour and attention. Why a Box edging should be deemed formal I know not; an edging of some kind is essential in most positions, and surely a perennial border behind it counteracts all stiffness. To an amateur of limited means who prefers a living edging I would recommend Box; it is comparatively inexpensive as it only requires trimming once a year, replanting after many years, and, in my experience, harbours less vermin than any other.

SYBIL.

I WONDER if Mr. A. T. Johnson had in mind any particular garden when he asked the question in THE GARDEN of January 1, "Why is it that so many people when laying out Rose gardens [illegible] edge them with Box?" I share his aversion to Box, not only because of the amount of labour involved in clipping to keep it within bounds, but for—shall I say?—its evil influence. In my judgment its presence in a garden at all is a mistake, as sooner or later, like "the noisome weed," it "doth suck the soil's fertility." Why anyone loving Roses should subject them to this robber of nutriments passes my comprehension. It is singular that last summer I should have visited a garden in North Wales where Rose trees presented a most woeful appearance and were causing much uneasiness to the owner. The Rose garden, which had been laid out many years in beds all surrounded with this "old world edging," occupying fully 9 inches of the space, indicated very plainly that the roots of the Box had practically taken possession of the soil, rendering it poverty stricken; and though most of the Roses, purchased from a firm beyond reproach, had only been planted three seasons, they had never been able to thrive, and never would. I came away with my mind fully made up that under no circumstances would Box be allowed any space near my Roses. The garden referred to is old, and it appeared to me that, like an old retainer, the owner could not bear the idea of uprooting the very thing which was sapping the life of the Roses, which must have been planted at not a little expense, as some of them were of comparatively recent introduction. It was simply a case as to which would win in the long run in the race for supremacy, and considering that it was not possible to put a fork in any part of the beds without becoming entangled with Box roots, all doubts were dispelled. Mr. Johnson is right, the smell of Box does obliterate the fragrance of the Roses; but it does more than this, it obliterates the source of the delightful perfume—the Roses.—W. LINDERS LEA.

Clianthus Flowering in Winter

YOUR correspondent from Llandaff may be interested to hear that I picked flowers of Clianthus puniceus albus growing on a south wall (unprotected) here on Christmas Day. It is covered with buds which will not open till the spring, but I think it frequently produces a few flowers during the winter months.—N. G. H., *West Somerset.*

I ENCLOSE an extract for the edification of Mr. J. E. Williams, who writes in the January 1 number, page 2, on the flowering of Clianthus puniceus. Apparently his neighbour, who was then residing at Mathern Palace, Chepstow, did the same on January 4, 1908. How much history repeats itself!

"Shrubs Flowering in Winter.—Mr. H. A. Tipping sends an interesting collection of flowering shrubs, which he describes below; the Winter Sweet was particularly good. 'This season's somewhat queer climatic conditions are causing some vagaries among my shrubs. I send you sprays of Winter Sweet in bloom and of Myrtle, Clianthus puniceus, Cydonia japonica and Ceanothus Indigo in bud. The former is normal enough; I often get it in bloom by Christmas if the weather is mild, but why buds on the Myrtle which bloomed, as usual, last summer? You will notice the same condition of things on the Ceanothus twigs; beyond the well-developed seed-pods of the summer flowering are trusses of flower-buds already showing the blue colour of the blooms. The Clianthus, I regret to say, has every shoot of the whole of its 10 feet of height covered with buds, not one of which, I presume, can live through the winter to bloom in the spring.'"

THE GARDEN, January 4, 1908.

Around the Markets

THE mild weather, though pleasant enough for the comfort of most of us, is bad for all perishable produce and, in view of the inevitable after-Christmas slackness, things are not too rosy in Covent Garden or the other large wholesale markets. The only suspicion of demand exceeding the supply is for really good shapely Christmas Trees, and the prices these still fetch are truly amazing. At one time just before Christmas there was, for a brief spell, a real shortage and would-be buyers waited eagerly for the supplies which were said to be on the road. When these really materialised, and up to the promised time, a great sigh of relief and thanksgiving went up. Then the buyers crowded around the motor lorries and soon of Christmas Trees there was none.

The pot plant trade has also been good. No doubt the public realise that flowering plants are more economical for home use than cut flowers, particularly as most growers are adepts at timing their big stocks so that the plants are just right when sent to the market. We British are a flower-loving race, when we can afford it, and at festival times most of us like to have flowers of some sort about the house. For those with lean purses, plants, if rightly selected, are really better bargains, even at rather higher prices, than cut flowers.

An enormous number of made-up pots and vases of orced bulbs were cleared recent y. The general favourites were the ornamental earthenware bowls, well-filled with Roman Hyacinths or with scarlet and yellow Van Tho Tulips just coming into flower, with a small Pteris tremula Fern in the centre. Imbued with the floral spirit I kept back one of the best for home and now, after a week indoors, it is even more beautiful than at first. These are, of course, forced in boxes and replanted into the bowls; but spring bulbs are good natured things and do not seem to mind root disturbance. The dainty little Ericas, particularly E. hyemalis and varieties have also been "good lines," while the rarer E. melanthera, which, I recently by Sweet, of Whetstone, in such superb quality, also had many purchasers.

Araucaria excelsa, which the Belgians grow so finely and in such amazing numbers, also went well. These have a particularly Christmassy appearance and are good room plants. When one is told that it takes six months to root the cuttings, the low price charged is astonishing. The better class retailers seem to have done a big trade with winter-flowering Begonias, and of these, the larger flowered B. Optima, B. Winter Glow and such seem likely to oust the smaller B. Gloire de Lorraine type.

January 7. A. COSTER.

Training Chrysanthemums as Bushes

NEATLY trained plants are not only ornamental in themselves, but exceptionally useful for furnishing the greenhouse, conservatory or glass porch and for yielding cut flowers. When grown for cut blooms for exhibition, it is absolutely essential to success that from one to three blooms be allowed on each plant. Well grown bushes will bear from twelve to fifty flowers, according to the variety and the way they are managed. Plants bearing twelve to twenty blooms are, generally, of varieties naturally producing very big ones if grown for exhibition; those bearing from twenty-five to fifty flowers are of varieties naturally very free in the production of small to medium-sized ones. A few varieties of both sections are named below. The hints here given are not intended to assist cultivators to train specimens of quite formal appearance, but those that are from medium to a large size and of natural and pleasing form.

WINTER FLOWERING BEGONIA OPTIMA.
Colour orange salmon. As grown for Covent Garden Market.

Selecting Plants. Undoubtedly it is an advantage to have strong plants to start with. If they are in 5-inch pots, pinch off the tops of the plants, leaving stems about 7 inches long—above the surface of the soil. If only the point be removed, probably only two or three new shoots will grow again; but by taking off 1 inch or 2 inches of stem, five or six side shoots will grow, and fairly even in strength. After stopping, do not water too frequently, but keep the soil rather drier than usual for a week or ten days. When the side shoots have grown about 2 inches in length and the pots are well filled with roots, repot the plants in 6½-inch pots, consisting of fibrous loam, leaf-soil, rotted manure and a 6-inch potful of bone-meal to two bushels of the above combined parts.

Frame Treatment.—A wise plan is to grow as many plants as there is ample room for, so as to avoid overcrowding at all stages. Place each pot on a tile on a bed of ashes in the cold frame Give a thorough watering when necessary. Never give driblets, which merely wet the surface soil and leave the bottom portion too dry. Ventilate freely after the plants are established in the new soil and when the weather is mild, but avoid cold draughts, as every plant must be well furnished with healthy leaves. The foundation of the bush plant is now laid, and it must be strengthened by the judicious use of manures. When the plants have filled the pots with roots, give a stimulant in the form of nitrate of soda, dissolving 1oz. in two gallons of water, and with this water once only. The effect is to increase the size of the leaves and stems, and to cause a very free break of new shoots when the next stopping takes place at the end of April.

Shift the plants to 7½-inch pots directly they are sufficiently rooted, and when duly recovered from the effects of the shift, remove the frame lights altogether during fine weather and so prepare them for a position on a bed of ashes in the open air. Naturally late-flowering varieties will not need stopping again; they will now possess from twelve to eighteen branches, and the latter will bear fine blooms in November from crown buds. But these and other late varieties may be taken on to terminal buds, when the number of blooms will be doubled and the flowering take place in December.

Earlier-flowering sorts must be again stopped at the end of June, with the result that each plant will possess from twenty-four to thirty-six shoots, and if terminal buds are selected, the fifty or more blooms per plant will be obtained during the latter part of October and in November and December, according to the varieties grown. Do not use too many stakes, but have neat ones and keep the branches well spread out. Place the plants in an open but sheltered position after the final potting has been done in 10-inch and 11-inch pots.

Good Varieties for Bushes.—Source d'Or, orange and gold; Lizzie Adcock, yellow; Mary Richardson, salmon, a single; White Countess; Kathleen Thompson, chestnut crimson; Emblème Poitevin, rich yellow; W. Turner, white; A. J. Balfour, pink; Caprice du Printemps, deep pink; Mrs. W. Buckbee, white; Pink Pearl; Baldock's Crimson; Mrs. Rundle, white; Mme. R. Oberthur, white; Heston White; Cheshunt White, very late; and Thorpe's Apricot. AVON.

Spraying Gooseberries with Lime Sulphur Fluid

LIME sulphur spray fluid is prepared by mixing one gallon of concentrated lime sulphur (specific gravity, 113) with thirty gallons of water. On certain varieties, *i.e.*, Keepsake, Lancashire Lad, Crown Bob and Freedom, the spray fluid at this strength is liable to cause leaf scorching and, in consequence, the fluid should be applied at half strength, namely, one gallon of concentrated lime sulphur (specific gravity, 113) to sixty gallons of water. Attacks of Gooseberry sawfly are also to be expected, and should be dealt with on the first signs of attack, and not two or three weeks later when partial defoliation has taken place. This pest may be kept in check by adding 6lb.

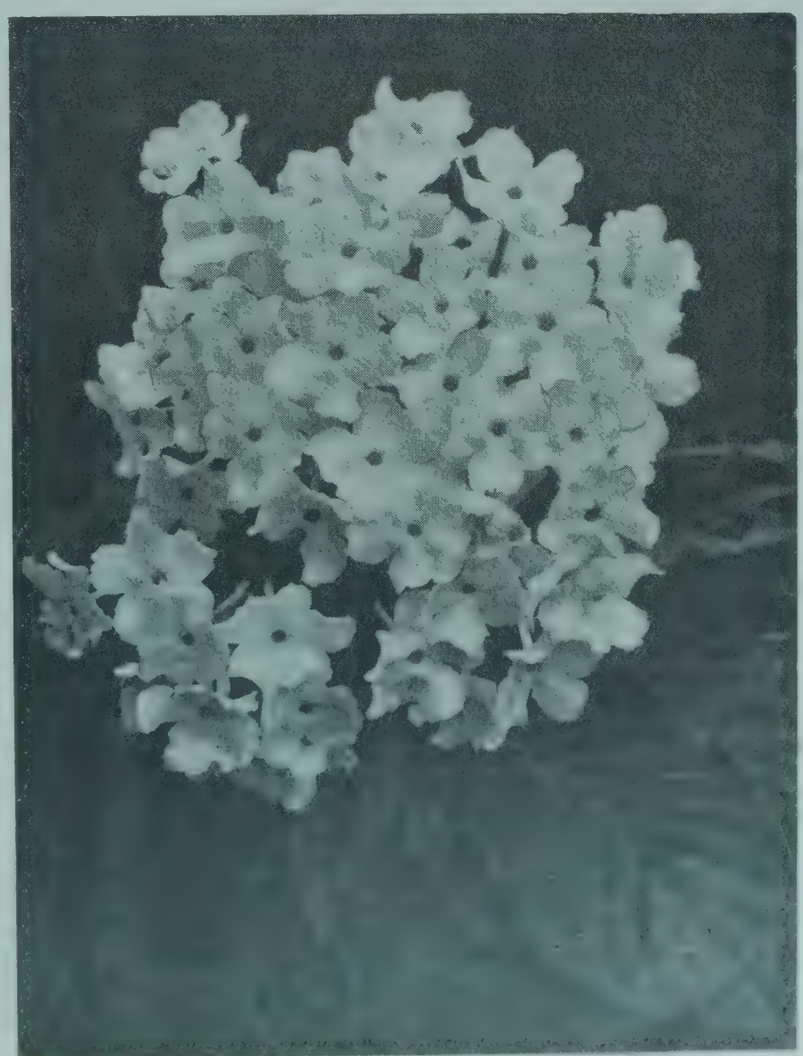
THE GARDEN

No. 2566.—Vol. LXXXV.] [January 22, 1921.

NOTES OF THE WEEK

MANY and varied are the articles appearing in this week's issue. The subjects range from the pruning of Apple trees to the planting of Clematises—from a northern grower's experience in Chrysanthemum growing to the raising of early vegetables—from the sun-loving Cistuses to plants that will thrive in a shady garden. It is our intention that every department of horticulture shall be represented in THE GARDEN. We take this opportunity of inviting readers to express their views on gardening matters and to send in questions upon which they wish advice from recognised authorities. Among the features of next week's issue will be special articles on Sweet Peas, "Cultivation of Irises in Pans," "Beautiful Greenhouse Plants from Seed," "Annuals to Fill the Gaps," and the "Distances to Plant Out Annuals." Gardening, of all arts and hobbies, lends itself to mutual co-operation. We hope, therefore, that readers will give enquirers the benefit of their knowledge and experience.

Luculia gratissima.—There is a fairly large specimen of this beautiful evergreen shrub from the Himalayas now flowering in a bed in the conservatory at Kew. The flowers are rose coloured, and delightfully fragrant. This plant is adaptable for pot culture, but thrives best in a bed or border in the greenhouse, in a compost of loam, peat and sand. During the summer months it should be afforded plenty of water, but between December the time of pruning, and April, the season of starting, water should be withheld. Old plants may be pruned severely after flowering, as the new growths bear flowers at their extremities the following autumn. Propagation is effected, though not without failures, by cuttings of the young shoots taken in midsummer, inserted under a bell glass and placed in bottom heat for a week or so, or by sowing imported seeds in soil on the sandy side and placing them in heat



A FRAGRANT GREENHOUSE SHRUB (LUCULIA GRATISSIMA).

A Useful Greenhouse Plant.—When half light prevails, as it often does during the dull days of winter, the orange-tinted flowers of Reinwardtia trigyna seem to stand out most conspicuously. It has long been known in gardens under the name of Linum trigynum. Another species, R. tetragyna, has primrose yellow flowers with yellow centre and four styles instead of three as in R. trigyna. Which is the most beautiful is a matter of opinion, but as they require little space and their cultural requirements are not at all exacting, a place should be found for both. Cuttings should be struck early in the year.

Hamamelis mollis.—Visitors to the Royal Botanic Gardens, Kew, should make a point of seeing this shrub, which, at the present time, mid-January, is a mass of colour, every branch being laden with fragrant golden blossoms, the fragrance being noticeable from a considerable distance. There are plants near the main entrance, others near King William's Temple and others among the collection of Buxus near the back of the Temperate House. The last are the most attractive of all, for the plants are very vigorous and last year's wood is laden with blossoms from end to end. This is by far the best of the Hamamelis and its value is fast becoming appreciated, although for many years after its original introduction it was confined to a corner in the Coombe Wood Nursery and almost escaped notice. It is a native of Western China and there grows 30 feet high. It succeeds in good, well drained, loamy soil.

The Alpine House at Kew.—This house has recently been opened to the public, and here are to be found some interesting plants now flowering in pots and pans. The rock garden is interesting at all seasons of the year, but at the present time, when there is a scarcity of bloom in this deparment, the Alpine House fills the somewhat vacant gap. Among the plants now in flower are Iris Danfordiæ, whose bright golden yellow flowers spotted with brown are very attractive; Iris histrioides, I. h. major; Galanthus Elwesi, a charming Snowdrop; Crocus Imperati, lilac purple inside with three dark purple stripes on the outer segments, fragrant; C. Sieberi, lilac and gold with bright yellow stamens; C. Fleischeri, yellow and purple; C. chrysanthus and its many varieties; C. biflorus, the Scotch Crocus, and several varieties; C. susianus, orange; Helleborus niger, the Christmas Rose, the beauty of whose flowers are much enhanced when given the protection of glass; Adonis amurensis, Pheasant's Eye, flowers bright yellow; Bulbocodium vernum, rosy purple; and the Winter Heliotrope Petasites fragrans, whose fragrant pale lilac flowers are exceedingly charming

FORTHCOMING EVENTS

January 25.—Royal Horticultural Society's Fortnightly Meeting.

January 26.—Irish Gardeners' Association M[illegible]

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

HOME-MADE PLANT LABELS.

QUITE useful labels can be made by taking off a slice of the bark and wood with a knife from shoots of Hazel, Ash, Birch, Wych Elm, Larch and any such that grow in woods and hedgerows to the required size. These labels present quite a smooth surface, easy to write upon, and, even in the open, last quite a long time, as they are of the full thickness of the stake employed, less a shaving on one side to allow of easy pressure into the soil.—E. M.

THE FRUITING OF AKEBIA QUINATA.

I ENCLOSE a fruit of Akebia quinata, thinking a description of it may interest some of your readers who, like myself, have not seen or heard of its fruiting. The creeper is growing in a cool conservatory and the fruits hanging down from the roof give it a very ornamental appearance. The plant has been in its present position about ten years and this is the first time of its fruiting. It has flowered freely each year and the fragrance of its fleshy claret coloured flowers fills the house. Is the fruit edible?—JAMES HOPKINS, *The Gardens, High Cross, Framfield, Sussex.*

[Akebia quinata is a vigorous evergreen climber, a native of China, Japan and Corea. It appears to be perfectly hardy, at least on a wall in most parts of Britain, though stripped of its evergreen leaves during severe frosts. Plants are sometimes heard of fruiting outside in the South and West, but as the flowers are produced in early spring they are often spoilt by frosts. It has distinct male and female blossoms, but both are produced on one raceme, the females much larger than the males. The fruits are thick, sausage shape, purplish in colour and about 3 inches long. The numerous seeds it contains debars, or at least detracts, from its value, if it has any, as an edible fruit.—ED.]

THE POHUTUKAWA OR CHRISTMAS BUSH OF NEW ZEALAND.

THE exceedingly interesting and acceptable note which appeared in the Christmas Number of THE GARDEN from "W. S. C." on the subject of the Australian Christmas Bush (Ceratopetalum gummiferum) has reminded me that the sister Dominion of New Zealand also has its Christmas Bush, an exceedingly beautiful sub-arboreal member of the extensive and various Metrosideros or "Rata" family, though I cannot now remember the specific name of the tree. Possibly it is M. speciosa. The Maori name is Pohutukawa. Anyhow, it is an exceedingly beautiful thing confined, I think, as a native plant to the North Island (though it survives a Southern winter) and, as far as I remember, to the more northern parts of the North Island. It is abundant on the shores of the Hauraki Gulf, at the extremity of which Auckland is situated, and nowhere more plentiful and beautiful than in the little island of Kawan, at one time, during the recluse period of his life, the property and residence of Sir George Grey. The tree furnishes a tough timber and is remarkable for its habit of forming sharp-angled elbow joints, so that it used to be, in early Colonist days, much in request for the skeleton part of boat-building, and, consequently, considerable inroads were made upon the tree. In Sir George Grey's Island, however, the Pohutukawas were sacred. No one might touch them. Consequently the trees were larger and finer than those on the mainland opposite. This Rata is strictly littoral in its habitat, loving especially to anchor itself on a sea-bluff and to stretch its gnarled branches over the tidal rocks, so that in Kawan you may feast on rock-oysters in the shadow of the trees. The foliage of the New Zealand Christmas Bush, as I remember it, somewhat resembles that of the Olive, and its crimson Myrtle blooms are arranged in clusters of the bottle-brush order. If the tree of which I speak is Metrosideros speciosa (though I fear it is not), it is in cultivation in this country and is listed in the exceptionally fine shrub catalogue of V. N. Gauntlett and Co., Limited.—A. W.

[The Maori name, "Pohutukawa," is applied to Metrosideros tomentosa, a stout, much-branched tree, 30 feet to 40 feet high, which, according to "The Flora of New Zealand," by Hooker, is common on rocky shores of the Northern Island. To the Colonists it is known as Fire Tree on account of the brilliancy of its flowers, but we do not remember the name "Christmas Bush" in connection with it. Several species of Metrosideros are known under the name Rata. The genus belongs to the Myrtle order, and, farther, the tree in question is under cultivation at Kew, being included in the list of Tender Dicotyledons.—ED.]

I WAS so interested in the Australian Christmas Bush article, familiar as it is to me as long as I can remember. Christmas was never Christmas without it, and it is such a jolly bright mass of colour, sort of rosy cherry in a star-shaped pointed flower about as big as a sixpence, but growing thickly in masses and very decorative, with a long, thin pointed leaf. I loved it always. I wonder if it could not be grown at Kew?—LUCY.

[The Australian Christmas Bush, Ceratopetalum gummiferum, is grown at Kew.—ED.]

STERNBERGIA LUTEA.

I RATHER infer from Sir Herbert Maxwell's note on page 2, issue January 1, that he never has any flowers on his Sternbergias. I am surprised at this, as until this last autumn my bulbs have given me a fair sprinkling of bloom ever since they came from Colesbourne, some four or five years ago, and I should have thought what was possible here in Maelor would have been possible at Monreith. Last autumn, however, I had not a single flower, and, what to me was far more aggravating, I had only a very few indeed on my Nerines, which hitherto have given me any quantity of bloom, and whose cultivation I did think we had mastered. I am inclined to put down my blank autumn in both cases to the damp, sunless summer, which I presume interfered with the proper ripening of the bulbs. As I write I am on the tiptoe of expectation about my Freesias. Will they, too, follow suit? What is sauce for the goose is sauce for the gander, and both Nerines and Freesias are Cape bulbs. I ought to say that the Sternbergias grow in a 4 foot border at the bottom of a south wall and among the roots of a Jefferson Plum. I think reports from other Nerine and Freesia growers would be of interest.—JOSEPH. JACOB.

IT is well that Sir Herbert Maxwell should have given a warning to those who attempt to grow the above-named plant that they may meet with disappointment (page 2). My grandfather flowered it well on a dry south border, and my father grew and flowered it every year for thirty years in a similar position about two miles distant. The clumps were never disturbed, and although a summer-house was erected which shaded one of them, the flowers were produced as freely as before. They grew in a light gritty soil such as is used for Carnations. During the last twenty-five years I have from time to time obtained the bulbs from various nurserymen, and have planted them under similar conditions and have never had even a solitary flower. I have come to the conclusion they have been collected from the wrong place at the wrong time. Mr. William Robinson writes in "The English Flower Garden" that "the bulbs must be large before they will flower freely, and imported bulbs are generally small." S. lutea is a native of Palestine, and grows in the valleys where the bulbs get a thorough baking. S. colchiciflora, which was cultivated by Parkinson, grows in dry and exposed positions in the Crimea, and is far more likely to succeed here than a variety removed from a warmer climate. The type has sulphur flowers, but those of the varieties known as S. dalmatica and pulchella are rich yellow. Mr. Robinson also mentions a variety of S. lutea named angustifolia, which he describes as "very free flowering." This very desirable variety may have been the one obtained and grown at Hoddesdon by my grandfather for so many years, but it has not been my good fortune to meet with it. The Sternbergias are so beautiful that I would suggest growing them in a deep pan in a sunny greenhouse where they could be left undisturbed. If the bulbs then developed the flowering habit, the pan could be sunk in a south border, and after they had in this way been acclimatised the clump might be carefully turned out. If some could be imported from Médoc when the bulbs were at rest and quickly planted again, they would, I think, be far more likely to succeed than any sent from the Far East. The bulbs appear to like being rather overcrowded, and should not be given a rich soil. I should be grateful to any reader who has bulbs which have flowered if he will kindly inform me where the bulbs were obtained.—H. H. WARNER, *Hoddesdon, Herts.*

APPLES.

IN your issue of January 8, page 24, "H. C." has a note headed "Dessert Apples"; but, as is well known, I am of the same mind as Mr. W. Robinson that if an Apple is not good to eat raw it is not good cooked. There is not a finer cooking Apple in existence than Blenheim Orange, and how good it is in its natural state! As regards Ellison's Orange, which he thinks well of, I have not yet seen the fruit; but I have grafted some trees with it which grow strongly enough so far. Of this Apple Mr. E. A. Bunyard says: "Of fair flavour . . . is of good flavour for a short period," which seems to me not exactly a high opinion of this variety, and hence growers would evidently do well to be cautious before planting to a great extent. What do other readers think of this Apple? James Grieve is an Apple that I have praised on the strength of some extra well ripened specimens; but I must confess that on the whole it is disappointing. In an extra warm year or locality it may develop its really fine quality, but on the average it is an inferior fruit and, as Mr. E. A. Bunyard points out in "A Handbook of Fruits," it is liable, at any rate in the south, to fall prematurely, as I know from experience to be the case. Gravenstein is an Apple that I think most highly of; it beats most competitors in its pleasant texture and flavour, and it is a strong grower. I am not yet able to speak from experience of its cropping qualities, but if it bore even only a quarter crop it is indispensable to any lover of a really good Apple. The mention of Mr. Bunyard's useful little book reminds me that he distinctly proves that Blenheim Orange is not the same Apple as Wood-

which I have always insisted on, though once or twice severely handled or "*pen*dled," if I may coin a word, for doing so. Woodstock Pippin is not as good an Apple, but is worth having. People should be very careful to know all that can be said both for or against a fruit before planting it, and I think Mr. Bunyard is on the whole very reliable in his descriptions in this respect, though I hope that in future editions he may in some cases find room to amplify. It is to some extent remarkable that, without any knowledge of what others had done in this respect, I have myself observed the distinguishing characteristics of the leaves of different varieties of Apples, such as I find given in Mr. Bunyard's book. The large Crabs which masquerade as cooking Apples are to me only of interest as freaks; an Apple that does not provide its own sugar is of poor value as food from a health point of view. I should like to warn people who love quality against growing that usually much praised fraud Ben's Red; I find it worthless for quality. The Sops in Wine described by Mr. Bunyard is not the variety known as such in Cornwall. The Cornish Apple may be the real "Sops in Wine," as it corresponds in worth to an Apple fit to be specially mentioned by Shakespeare. It resembles St. Edmund's Russet, though I think St. Edmund's is the best of the two. I am surprised that St. Edmund's is not grown for market; it is a good and regular bearer, of first-class quality, of good medium size and attractive appearance, and not subject to diseases and pests, so far as I have tested it. Rosemary Russet is fine for late use. People in the North of England think that the Cornish climate should produce finer fruit than in their vicinity; but Cornwall is on the average cooler in summer, at any rate on the uplands and north coast, than the Midlands of England, and fruits ripen rather late where I live and not fully in some seasons of limited sunshine. "Light and invigorating" is the truest description of our atmosphere in the summer-time—very different to the Midlands.—W. J. FARMER, *Redruth.*

SHORTAGE OF BERRIES ON HOLLY.

"ACOSTER" is wrong so far as this district is concerned (page 13), we had plenty of berries before the snowstorm last month, but before the snow had disappeared the birds had eaten all the berries.—G. C., *Alverstoke, Hants.*

BOTANY FROM A CHAR-A-BANCS.

MY acquaintance with THE GARDEN cannot be termed a long one, extending as it does, as yet, only for one year. If, however, I am not an old reader, I can claim at least to be an ardent and an interested one and look forward week by week to the arrival of my copy. Of the many interesting articles which have appeared from time to time none has given me more delight than the one, "Botany from a Char-à-bancs." I appreciate, as only a true Cornishman can do, much of what "Somers" has written, but I am bound to point out in justice to the flora of Cornwall a few errors respecting the same contained in that contribution. Having lived at Penzance for upwards of twenty years I think I can claim to have taken more "extensive plant-hunts on foot" than "Somers," and can assure him that within a distance of less than two miles east, west or north of Penzance I can locate many places where, in season, Primroses are as the stars in the heavens. And as for Wild Roses, what fairy poured a mystic juice on "Somers'" eyes to hide these from view; or, perhaps, a surplus of Cornish cream and Blackberry jam somewhat blurred his vision. Did these "plant-hunts on *foot*" ever lead to Trevayler Bottoms, near Gulval, or to the lanes around Heamoor, Madron or Newlyn? There is one lane that I have in mind particularly where I have seen gorgeous and profuse displays of the Dog Sweet Briar Rose. It is situated between Gwinear Road Station and the village of Carnhell Green. Concerning the entire Ivy leaf, which bears flower and fruit, "Somers" states: "This latter phase of growth is not often seen in the Ivies of the Cornish Coast." The correctness of this remark lies to a great extent in the interpretation of the word "coast." If the "coast line" is meant I agree, but if roads traversed on a char-à-bancs ride are meant, then I cannot agree. Since reading this article I have cycled from here (near the Lizard) to Penzance, have ridden in one of these chars-à-bancs from Penzance to Gurwards Head and St. Ives, thence to Penzance again; have ridden a cycle from Penzance to Hayle and back to my starting point, and the instances where I noted this particular form of Ivy leaf were much too numerous to count. I can well imagine "Somers" not finding Wahlenbergia hederacea near the sea. On reference to my John's "Flowers of the Field" I find a note that I had picked this delightful but extremely delicate plant at Boligey Moor, about six miles from Helston, off the road from there to Falmouth, in July, 1914. Since then I have not seen it.—G. MATTHEWS, *Carrabone, Mawgan, Cornwall.*

A PRECOCIOUS TULIP.

I HAVE been much interested by the recent notes from Mrs. Williams of Scorrier, Cornwall, and Mr. W. A. Watts of St. Asaph, North Wales, recording the extraordinarily precocious flowering of Narcissi; indeed, when Mrs. Williams' note appeared I was so much astonished that I took the liberty of writing to her to ask what the variety was. She most kindly sent me a bunch of the flowers to see; they proved to be a Tazetta variety with white perianth and orange yellow crown. I found a case of precociousness in our own garden here on December 31, which I think equally remarkable. In this instance it is a May-flowering Tulip! Some time ago I had been much surprised to see a very advanced flower bud in a small patch at one end of a long bed of different varieties; I thought it would succumb to the first sharp frost, but on the date stated, despite the fact that we had had several fairly keen frosts since I first noticed the bud, I found a yellow Tulip some 15 inches or so in height. The flower is, of course, small and out of character, so much so that I am uncertain as to the variety, but think it is Gesneriana lutea pallida. The bulbs were planted in 1919 and left undisturbed last summer. I see several other buds in various stages of development in this patch, and am quite at a loss to account for their precocity. Our summer was quite exceptionally sunless, cool and wet, so that the bulbs would not have been more than usually well ripened. October was the only month in which we enjoyed good weather above the average, but it is difficult to assign the cause to weather conditions of any kind, as the case seems isolated; Daffodils, Snowdrops and other things being in no case more advanced than is usual at this date here.—GUY L. WILSON, *Broughshane, County Antrim.*

TULIPA SAXATILIS.

READING about Tulipa saxatilis lately in THE GARDEN, perhaps some of your readers would like to know how it does in this part of the world. A few years ago I imported half a dozen bulbs from Messrs. Barr and Sons. As soon as the bulbs got established they grew most vigorously. I am sending you a photograph of a bed of Tulipa saxatilis showing hundreds of flowers and buds; many of the stems have several flowers, from three to five. It is the first Tulip to appear above the ground after the autumn rains in May. The foliage is quite distinct from any other Tulip, being of a bright green, shining and glossy; the flowers are pink, with a yellow base and chocolate-coloured anthers and are greatly admired by everyone who sees them. It flowers about the end of September. The Tulips are grown in the full sunlight and are not lifted except to transplant. The soil in my garden is chocolate coloured, with ironstone gravel subsoil; but the beds have been enriched and made lighter by the addition of cow manure, path scrapings and sand. Dry weather conditions appear to suit this plant, because the spring of 1919 was very dry, and this was followed by one of the severest droughts known in Australia In this district, with the exception of about fifty points of rain on Easter Saturday, 1920, there was no rain to speak of from Christmas, 1919, to May 10, 1920, when the drought broke; yet I have never seen Tulipa saxatilis flower so profusely as it did this spring.—F. FOY, *Lancefield, Victoria, Australia*

A BED OF THE RARE TULIPA SAXATILIS.

CLEMATISES that should be MORE FREELY PLANTED

Other Plants of the same Colour Sequence and Two Clematises that Flower in Winter

Some Hybrid Clematises

THERE was an illustration in THE GARDEN of January 8 of a natural hybrid between Clematis Vitalba and C. Davidiana. Is this plant in commerce? [Not so far as we know.—ED.] It looks most attractive in the illustration. It is surprising how seldom one sees Lemoine's beautiful hybrids of C. Davidiana. Some of them are most valuable in the border or in association with shrubs, having at once rare and subtle colour and delightful scent. The newest sorts, Campanile and Oiseau bleu, which are derived from C. stans, do not seem to me to be as good as some of the older sorts, such as Cypris; during the three or four seasons in which I have grown them they have never made anything like such a fine effect as one had expected from an illustration in Lemoine's catalogue. Perhaps the plants want a rather different treatment from what I have given them; they are evidently semi-scandent in habit. Cypris, on the other hand, is sufficiently erect to need little or no staking. The flowers are much more beautiful in shape and have a smell something like that of Cowslips. The silvered blue of the flower clusters is too subtle a colour for association with violent yellow, such as that of the Helianthuses, but with the pale, clean yellow of a good hybrid of Gladiolus primulinus it is very happy.

(Other plants belonging to the same colour sequence are Ceanothus Gloire de Versailles, Clematises Perle d'azur and Lady Northcliffe, and the magnificent aconite which I have had from Messrs. Smith, of Newry, under the name of volubile—a perfectly erect sort, flowering in July and August and running up to 9 feet. This is a more beautiful plant than Aconitum Wilsonii; you will not find a more perfect harmony of related colours in all your garden than that provided by this plant towering up through the Ceanothus and festooned with Clematis Perle d'azur.)

But to return to Clematis Cypris and its fellows. Would some readers who have grown all the other sorts—such as Adonis—give us their experience of them. I have only tried four or five, besides those named.

I see that Vilmorin's new list includes Clematis Spooneri rosea, a plant which I have been looking forward to getting ever since seeing it in flower at Verrières in May, 1919. C. Spooneri itself is a lovely thing—more substantial and regular in form than C. montana. C. Spooneri rosea is the hybrid which M. Mottet has raised between this and C. montana rubens and, to judge by what I saw of it, is the finest in flower of any of the pink forms of montana. After seeing C. montana rubens and Lemoine's hybrid, lilacina, this newcomer seemed notably more perfect in form, with its four large, rounded petals. But indeed, C. montana rubens is a plant which can never be "superseded"; with its purpled leaves it is always beautiful, whether on old brick, or grey stone, or dark evergreens, or trailing over a bush of Weigela rosea (or? Weigela rosea fol. purpureis).

I see that Vilmorin's are also offering a new, large-flowered form of Clematis Armandi, which ought to be a valuable plant; it is said to be very free-flowering, which will be advantage. (Am I right in thinking that the type is shy in flowering? Or is it merely that it has to be established for rather a long time?) W. E. ARNOLD-FORSTER.

Winter-Flowering Clematises

PLANTS which naturally flower in mid-winter are not too numerous even in gardens in Southern England, so it is surprising to find the two winter-blooming species of Clematis so little planted. They are by no means new introductions, for Clematis cirrhosa was first imported from Spain late in the sixteenth century, and C. calycina arrived in 1783 from Corsica. Although neither species is at all a showy plant compared with the summer-flowering Clematises, both have dainty bell-shaped flowers and very handsome evergreen glossy foliage. The two species have been much confused in gardens where they not infrequently appear labelled "C. balearica." In reality they are quite distinct and cannot be confused once they have been seen growing together. C. cirrhosa is a rampant climber in mild districts, though in cold situations it apparently does not make much headway; the glossy leaves vary much in shape according to the age of the shoot, but are usually broadly lobed and coarsely toothed. The flowers, which droop from the axils of the leaves, are cream colour or greenish white, and are

CLEMATIS MRS. CHOLMONDELEY AND LUPINUS POLYPHYLLUS

about the size of those of C. montana. They appear in small numbers during mild weather over a long period. C. calycina has been aptly named "Fern-leaved Clematis," the foliage being very finely divided and deeply lobed. It is not so vigorous nor so hardy as C. cirrhosa, but in warm gardens it will ramble over high walls and through tall shrubs. It is quite worth a place for its beautiful foliage alone, which turns bronzy purple in winter, and then forms a charming setting for the pendent greenish white flowers, daintily streaked and spotted inside with reddish purple markings. Neither species appears to be particular as to soil, both thriving in a rich moist loam, though the addition of some lime rubble to soils deficient in lime will probably be appreciated. Like most species of Clematis they are readily propagated by cuttings of half-ripe wood if these are severed midway between the nodes, not immediately below the node as with most shrub cuttings. With the help of C. calycina and C. cirrhosa it should be possible to have Clematises in flower throughout the year. NORMAN G. HADDEN.

Clematis Rehderiana

OF the late-flowering Clematis C. Rehderiana is one of the most desirable, with its nodding, bell-shaped, soft primrose yellow flowers, with the fragrance of the Cowslip, which are borne very freely from August to October, and on this account it is worthy of cultivation. It is a deciduous climber with large pinnate leaves and seven or nine coarsely-toothed leaflets. A native of Western China, it was first introduced into France under the name of C. Buchaniana; later it was identified with C. nutans. Both of these species are Himalayan and probably not in cultivation. It has also been confused with C. Veitchiana, but its leaflets are larger and not so numerous as the latter species, although its flowers are the same shape and colour, but rather larger. In the accompanying illustration Clematis Rehderiana is shown growing up the side of a house in the garden of Mr. Charles P. Musgrave, Hascombe Place, Godalming.

F. G. PRESTON.

Clematis Fargesii

THIS Chinese Clematis belongs to the Vitalba group. A native of Western Szechuan, the spray illustrated on the front cover was cut from a plant raised from seeds sent home by Mr. E. H. Wilson, No. 4145W. The flowering season extends from June to September. Produced usually in a one or two flowered axillary peduncle, the individual flowers are large, 2 inches to 2½ inches across, and a pure satiny white. C. Fargesii is of vigorous habit, promising to be a useful climber for arbours and verandas. Seeds ripen freely on the plants, while if these are not available cuttings and layering provide alternative methods of propagation.

PRUNING APPLE TREES

And the Most Fruitful Varieties

Pruning Apples.—Generally speaking, the shortening of the current season's growth by one-third or one-half of their length is sufficient, to an eye pointing outwards in the direction in which it is desired the new shoot shall go. While, at the same time, an experienced man may be trusted to *thin out* overcrowding wood in the centre of the tree. Such sorts as Irish Peach and those which fruit on the ends of their growths should have this pruning mostly confined to the leading growths, which go to form the future build of the tree. There is no doubt that more fruit is lost in amateurs' gardens through overpruning than through leaving the trees alone. A good plan to test this in cases of unproductive trees (if they cannot be root pruned), is to leave them unpruned for a season and only thinning out by removing altogether the superfluous shoots which grow in clusters together (as the result of over pruning), and leaving the one leader to carry on in the direction in which the tree is desired to grow.

The Most Productive Apples are, in kitchen varieties, Lane's Prince Albert, which I place first on the list because it scarcely *ever* fails to fruit. It keeps well until Christmas or after if stored in a cool, not too dry a shed or cellar (one with an earth floor is best). The same remarks apply to Golden Spire and Stirling Castle. These varieties, not being vigorous in growth, should have the leading shoots pruned each year to induce more growth. Rev. W. Wilks, a large precocious to fruit variety, which, although not a strong grower, is most productive. Then, too, Bramley's Seedling is an excellent Apple because it may be allowed to run wild and unpruned after once the general build of the young tree has been secured. The above are all good Apples to keep excepting Stirling Castle. For earlier culinary purposes Early Victoria, Lord Suffield and Lord Grosvenor are reliable Apples of a soft Codlin nature, and Ecklinville Seedling, Bismarck and The Queen fruitful mid-season Apples.

The most regular cropping Apples for dessert purposes in the order of their ripening season are: Early.—Mr. Gladstone, Langley Pippin (excellent but little known), Beauty of Bath, Irish Peach (for gardens) and Worcester Pearmain. Mid-season.— James Grieve (not a vigorous grower so requires pruning), Chas. Ross, Cellini Pippin (poor quality), Herring's Pippin (a very healthy grower and fruitful Apple of excellent flavour which should be in every collection), and Allington Pippin (one of the most reliable). Then, too, although not so reliable, but because of its flavour and keeping qualities, Cox's Orange Pippin should be in every garden and, failing this, the old Blenheim Orange, because it makes a good tree if neglected and left unpruned. This, however, should not be one of the first choice for one's garden as it is somewhat slow in coming into growth. Barnack Beauty is a productive late variety, but not of high quality.

Of course fruit trees are scarce this year, and many people are planting them. A popular fallacy is that trees must be planted before Christmas. The planting season extends until the end of February and even until March. Planters should therefore have reasonable patience, and having made up their minds to plant, not expect to see the trees in their places the following week. Nurserymen have been booking orders since the spring and open the season with a lot of orders which cannot all be executed at once. Correctly speaking, the condition of the soil is of more importance than the immediate date at which trees are planted

Pears do well in many districts, Plums in most, and many an unproductive north wall might be made to produce excellent Morello Cherries.

Bush Hill Park. LAURENCE J. COOK

CLEMATIS OVER A GARDEN ARCH.

SOME SHADE-LOVING PLANTS

A Shady Garden made Bright with Flowers

THERE are many whose gardens call for some consideration in planting because of the fact that they are shaded either by trees or walls, and there are few places indeed where there is not some portion of the garden away from the beneficent rays of the sun. To the owners of these the following plants may be suggested. The list is far from exhaustive and is rather a selection than a collection. Other equally good plants have been omitted for various reasons, either of greater difficulty of cultivating or some other condition which appears conclusive to the writer at the present time. It may be added that, while most of the plants named will grow and flower even under the drip of trees, this is to be avoided as far as is possible.

SPRING FLOWERS IN THE SHADE OF A NUT WALK.

Astrantias present themselves as attractive, though not showy flowers for our purpose. A. major and A. carniolica may be indicated as good and suitable. Aquilegias mostly do well, but the varieties of the common Columbine, A. vulgaris, are the best for what we require. Aconitums, or Monkshoods, are suggested for those who want tall-growing plants. Of the Anemones A. japonica and its varieties are indispensable among the taller Windflowers, but for carpeting the ground the forms of A. nemorosa, the Wood Anemone, are grand. A. Alleni and A. Robinsoniana may be named as good blue ones; and A. nemorosa grandiflora and A. n. flore pleno among the whites, with A. ranunculoides as a yellow companion. Acæna microphylla is a good carpeter, especially if the place is a little damp. The bigger Campanulas, such as C. latifolia macrantha, are all fine, but there are too many of these for detail at present. The pretty Corydalis lutea and its creamy variety alba flower splendidly in the shade. All the pretty Cardamines, such as C. pratensis flore pleno, thrive in shade; and attention may be drawn to the attractions of the Dentarias, now allied with them. The yellow Foxglove, Digitalis lutea, is a distinct, though not showy, plant for the shade. To the writer it is an object of surprise that the Epimediums do not meet with greater appreciation for planting in shade, even directly under trees; they are very beautiful. For putting in a place where tall, graceful plants with a tendency to spread are called for, Epilobium angustifolium, purple, and its white variety, album, are fine, even under trees, if not starved for want of soil and moisture. Funkias are charming things and always please. There is a quietly attractive Cranesbill called Geranium striatum which flourishes best in the shade; and the native Geum nivale does not object to full exclusion from the sun. All the Hellebores, including even the lovely H. niger, the Christmas Rose, are suitable for growing in such a position. Podophyllums are quaintly pretty in the shady spots with some moisture, and Polygonatum multiflorum, the Solomon's Seal, delights us with its pendent flowers of waxy white; and the Pulmonarias, or Lungworts, are excellent in spring. The Geum varieties of Saxifraga, with the Megasea section, are useful. A little coarse, but giving some points of great beauty about the tints of their flowers, are several of the Symphytums, such as S. bohemicum. Highly graceful is Thalictrum aquilegifolium with foam-like heads of white, as delightful in their way as those of Tiarella cordifolia, the plant which is commonly called the "Foam Flower" and which is also included among the shade-lovers. We cannot say that our shady garden is without any of the most delightful flowers when we can plant and grow successfully within its little domain the Trinity Flower, Trillium grandiflorum, one of the prettiest of all our plants. Finally—out of consideration to limitations of space, for my subject is not nearly exhausted—one would suggest the pretty trailing or creeping golden-flowered Waldsteinia trifolia as worthy to be included among the flowers we can enjoy in our sunless or almost sunless garden ground, and which will not resent their inclusion, but will give us so much true delight by their bright and happy looks.

S. ARNOTT.

A Late-Flowering Aster

THE latest Aster to flower in the open garden is one which we have grown under the name of Aster Shortii, a pretty North American species. The original plants were, I believe, obtained from the nursery of Messrs. Perry of Enfield. We have for several seasons lifted plants of this Aster in late summer and replanted them in a border between clumps of Anchusa italica. After the latter have passed out of flower the Asters are carefully staked and the growths arranged in a manner which completely furnishes the border. The flowers, although small, are of the finest soft blue and will withstand the ill effects of fog and rain to a remarkable degree. Normal plants attain a height of from 3 feet to 4 feet. Nice bushy plants about 18 inches high can be obtained from cuttings, or divisions, taken in spring, and grown during the summer in poor soil. These latter are more useful for filling in the front row of borders for late autumn effect.

Sulhampstead, near Reading COLIN RUSE.

HOW CHRYSANTHEMUMS are AFFECTED BY THE SEASON

A Northern Grower's Experience in 1920

SOME years ago, in these columns, I drew attention to the fact that, generally speaking, the late varieties of Chrysanthemums are in best form during a dull season. So far I have seen little to change that opinion, but may modify it slightly by saying that the majority of the sorts I have grown are invariably best when the season is cool and sunless. I do not pretend to explain the reason for this, but merely state an obvious fact, and as this is going against the expressed opinion of many writers on the culture of these indispensable autumn plants, who claim that only well ripened wood can produce fine flowers, I give it with some diffidence and will be glad to have the experience of other growers who may have made a study of the subject. As I have said, it is not *every* variety that shows a distinct preference for a dull season, as some are invariably good no matter what the climatic conditions are. A brief list of those that show a special liking for certain weather conditions may be of interest. My collection, although not very large, is fairly representative of the large-flowered Japanese section, and most of the varieties can be found in the bulk of trade catalogues.

Mrs. R. C. Pulling.—This is still one of the finest yellow Chrysanthemums ever raised and has been finer this year than ever before. It is one that remains fresh for a very long time. Certainly the sunless season just ended has suited it admirably.

Mrs. Algernon Davis.—This, one of the loveliest pinks in cultivation, has been great this year, while in 1919, a very sunny season, it was poor in size and colour.

Queen Mary.—This giant white never came anything like so fine in former years as it has done this season. To get really good blooms only one flower to a plant must be permitted and the plant must be generously fed.

William Vert.—This lovely scarlet crimson variety also seems to prefer a dull year, as it never before was so fine.

James Stredwick.—Of fine colour this year; a dull time seems to be the right condition for bringing out the unique shade of this fine variety. Last year it was very pale, though the blooms were of good size.

Louisa Pockett.—Last year this lovely monster was our best variety, but this year it is so late that even at the time of writing (December 20), it is not fully open, so that it is impossible to be certain as to its merits in a sunless season.

Mrs. W. E. Tricker.—This, too, was very fine in 1919, but this year it lacks size. In growth it is rather soft and weakly, so I presume a dry, warm summer is most to its liking.

Fred Green.—This is another dull-season variety, although it is one of the most consistent we have, for even last year it was quite good.

His Majesty.—This has been better this year than ever previously, but generally it is a bit uncertain.

Mrs. R. Luxford.—This old "stager" is so consistently good that I cannot bear to part with it. This season it has been very brilliant in colour. Stands long in beauty.

Mrs. Gilbert Drabble.—This somewhat troublesome beauty has been very fine this season, but was equally so last.

J. H. Silsbury.—Never previously had this old favourite been so brilliant in hue and the flowers are of good size.

Edith Jameson.—This is another old friend one hates to discard. At this moment it is giving us some fine blooms and I think the pink shade is more lovely than ever before.

Niveus.—It must be more than twenty years since this lovely white Chrysanthemum was first sent out, and it is as fine to-day as ever. Disbudded it is still able to give a very fine bloom, while grown naturally the sprays are magnificent. To have abundance of these grand white sprays at Christmas grow on some of the old stools, top-dressing with fresh rich soil and feeding moderately during summer and autumn. Treated thus the plants bloom several weeks later than do young stock raised from cuttings.

Mrs. E. J. Tickle.—Although the colour of this easily managed old variety is never a really beautiful pink, yet it gives such consistently good flowers that one clings to it still.

Bob Pulling.—This prefers a sunny season. This year the colour was poor, although the blooms were of good size.

William Turner.—This famous white has been very poor this year, so it evidently prefers a warmer and brighter season.

Mrs. J. Gibson.—This reliable pink variety demands a sunny season to give of its best. This year the blooms are a good size, but are very poor in colour.

Mrs. L. Thorn.—This is one of the most refined 'Mums we have. In colour it much resembles Mrs. R. C. Pulling, but is never so large. This season it has been remarkably fine, being a true Japanese incurved, without coarseness. It is a healthy, but not robust grower. C. BLAIR.

Preston House Gardens, Linlithgow.

IN A CLIFF GARDEN

THE illustration below shows a portion of the pleasure grounds in the gardens of Mr. W. R. Price, Pen Moel, Chepstow. The chief feature shown in the foreground is winding herbaceous borders divided by a narrow grass path. Here the plants are arranged in irregular groups of three, five or seven, according to the habit of the different subjects employed. A few of the chief plants used in this case are Bocconia cordata, Chrysanthemum maximum Mrs. L. Bell, Cimicifuga racemosa, the variegated form of Epilobium hirsutum (a rare plant in private gardens), Gypsophila paniculata fl.-pl., Lobelia syphilitica, Platycodon grandiflorum, Rudbeckia subtomentosa, Scabiosa caucasica, Kniphofia rufa, and various varieties of Asters, Iris, and Phlox.

AN UNDERCLIFF FLOWER GARDEN AT PEN MOEL, CHEPSTOW.

In the background will be noticed the natural rugged cliff of limestone rock. This rises to a height of at least 30 feet, the face being partially covered by a fine old specimen of the well known Banksian Rose, which makes a lovely picture when seen in full bloom.

A little to the left of the rock will be noticed a tree of Cupressus funebris (Funeral Cypress) 20 feet high, while on the extreme left of the illustration is a good specimen of the Copper Beech. Nearer to the front, but appearing to be underneath the Beech in the illustration, is a good standard of the Almond (Prunus Amygdalus) which completes the picture.

Readers who have been able to follow me through [illegible] will be more interested perhaps

when I explain that the natural rock shown is surmounted by a dense wood of Larch, Pine and common Yew. This not only adds height, but invests the whole scene with considerable attraction, and adds to the garden's charm.

Chepstow, Mon. J. A.

The HARDIEST of the ROCK ROSES

Many Cistuses are much hardier than is generally known. They are among the most beautiful plants that abound in Southern gardens and thrive on poor stony soil and sunny banks. So long as the roots are dry the plants withstand an average winter, but it is advisable to place Pine boughs around the plants as protection in very severe weather.

THE Cistuses or Rock Roses are close relatives of the Sun Roses or Helianthemums, and, like them, they need an open, sunny position. They like the early morning sun, and are at their best from nine in the morning till two in the afternoon; after this time most of the flowers are closed for the day or fallen. Like the Sun Roses, the flowers are very fugitive, individual blooms lasting but a short time. This does not, however, imply that the blossoming period is a limited one, for they are so floriferous that a succession is kept up over a period of six or eight weeks. Even after most of the plants have finished blooming some sorts give a second crop, and although the plants are at their best during June and July, some will continue to flower through the autumn.

The illustration shows one of several groups of Cistuses growing in the Royal Gardens, Kew. This and other similar groups at Kew have been out for several winters. In all cases the plants are on sunny banks and the soil in each instance is of the poorest, consisting of sand and gravel. When planting, the only preparation that is made is to strip off the turf and lightly fork over the surface. The plants are put out from pots, rooted cuttings or seedlings six to nine months old being used. As the ground is poor and firm, growth is slow and short jointed. Plants growing in rich soil and forming a lot of soft wood are more easily damaged by frost. In poor ground the plants also prove more floriferous than when growing in that of a richer nature. From sorts known to be tender, cuttings are rooted and kept in pots in frames throughout winter. Cuttings of most of the sorts, taken in August or September and placed in pots of sandy soil in a little heat, root readily, while those who have no warm propagating house may dibble the cuttings into a bed of sandy soil in a cold frame, where, if the severest frost is kept out, they will root and stand through the winter.

A Selection.—For positions where a tall plant is required C. laurifolius is a capital species. It grows 5 feet or 6 feet high, occasionally more, and has large, deep green leaves and white flowers 3 inches across. It is the commonest and hardiest of all the species and is of use for beds on the outskirts of lawns, groups in shrubberies, an exposed position on the rockery, or for mixing with informal groups of other species. C. corbariensis is a hybrid between C. populifolius and C. salvifolius and is a very hardy plant. It forms a dense mass 18 inches or so high and bears large white flowers. C. crispus is recognised by its greyish leaves and purplish flowers, which are about 2 inches in diameter. It is sometimes killed in severe weather. C. cyprius is a beautiful species that grows 2 feet to 3 feet high; the flowers are 2½ inches across and pure white, with the exception of a rich brownish red mark near the base of each petal and a tinge of yellow at the extreme base. It will stand any except the most severe weather. C. hirsutus is another dwarf white-flowered plant of good habit and hardy. The less hardy Cistus ladaniferus has tall viscid branches and leaves and very beautiful flowers 3 inches or more across. The blooms are white with a rich purplish blotch at the base of each petal. (It is sometimes confused with C. cyprius, but differs from that plant by the flowers being borne several together, while in C. cyprius they are produced singly). From this species ladanum is obtained. C. monspeliensis, sometimes met with under the name of C. Clusii, is a dwarf species that bears white flowers. C. recognitus is another white-flowered plant, a hybrid between the last-named and C. laurifolius. C. canescens has whitish leaves and purplish flowers while C. villosus has also purple flowers.

CISTUS LORETII is one of our best Rock Roses, and is a hybrid between C. ladaniferus and C. monspeliensis. It forms an attractive evergreen bush 3 feet or more in height, and, being of a spreading habit, usually exceeds its height in diameter. The leaves are small—1 inch to 2 inches long—and the flowers are in terminal clusters of three to five blooms, white, with a crimson blotch at the base of each petal. The flowers are 2 inches or rather more in diameter and, in common with other Rock Roses, open in the morning and shatter before night. There is little evidence of this failing, however, as the bushes continue to produce a profusion of blossoms in succession throughout June and July.

It is worth noting that the flowers of C. Loretii remain open for a portion of the afternoon, whereas most Rock Roses shatter about midday. This is one of the hardiest Cistuses, and must be included in a selection of the best six for garden decoration. The Rock Roses delight in a well-drained sandy soil and warm sunny position on sloping banks or at the foot of a south wall or fence. Cuttings root readily in autumn in a cold frame or under a handlight, and artificial heat is not desirable.

CISTUS LORETII, FLOWERS WHITE WITH DARK CRIMSON BLOTCH

Cottage Tulip Rose Beauty

So much depends on the bent of individual tastes in our estimation of colour and form that it may very often be said (adapting the well known proverb about meat and poison to the occasion) that what is one person's joy is another person's bane. Lots of people cannot do with magenta at any price, but I know a very distinguished painter of flowers who "swears by it." I am myself very partial to a hard rose, such as we get in the jolly fresh-looking Tulip Cassandra; but some remark, when I am getting *too vehement* on the subject, "Not all that about that hard, cold colour, surely?" Well, now those who like a softer tone of rose will be charmed with Rose Beauty, which is a Cottage variety of distinguished presence and with a Darwin-shaped bloom of a shade which, when they are grown side by side, is astonishingly like Prince of the Netherlands when it is in what may be called its hobble-de-hoy stage. If it were better known I anticipate the public would pay it the greatest tribute that it is in their power to bestow, viz., they would quickly raise its price by their importunate demands.

AN ALPINE SHRUBLET

(GLOBULARIA BELLIDIFOLIA).

Too rarely seen in our choice rock gardens, this tiny plant would find many admirers among those who delight in the rarer and more difficult plants from high levels in the mountains. The illustration, prepared from a photograph taken in the alpine gardens of the Pont du Nant, admirably shows this prostrate shrublet, thoroughly happy in the sun-baked crevice of limestone with the equally sun-loving grasshopper basking by its side.

G. cordifolia, rather generally grown, though far from often well flowered in our gardens, is almost coarse beside this plant, which scarcely rises above an inch from the ground, clothing, when successfully made at home, the bare rock or shingle with a fine, interwoven network of interlacing, woody branches, hidden under a carpet of tiny, bluntly oval, shining dark green leaves of leathery texture, from in between which push in mid-summer, on half-inch or perhaps inch-long stems, the tousled Daisy-like heads of a softly grey-blue, or almost Ageratum-blue colour, unless you have got hold of the still rarer albino form of this plant.

All the Globularias are southern plants, and it should be remembered that the whole genus requires the fullest exposure to sunshine to ripen their growths to a hardness that will withstand our changeable winter climate and enable them to flower as freely as is their habit in the sun-baked hills of Southern Europe. Plant, then, your choice dwarf "Globe Daisies" in the hottest and best-drained crevices, ledges or pockets of your rock garden, where their main roots can dive under large, firm rocks; if of limestone, so much the better, and if not, let their roots find at least a large quantity of limestone chippings or good old mortar rubble in the soil prepared for them, and work a top-dressing every spring into the springy carpet of their leaves and branches, and you will have pleasure from your plant. I suspect it would also do well in a sunny limestone moraine, preferably in the higher and sunniest reaches.

W. E. TH. I.

GLOBULARIA BELLIDIFOLIA IN A SUN BAKED CREVICE AT PONT DU NANT.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Sweet Peas.—If not already done, seed should be sown at once (for early flowering) in pots or boxes of light sandy soil. Germinate in gentle heat, and afterwards grow as cool as possible. Keep plants from the autumn sowing growing in cool, airy conditions, and pot them as they become fit, giving them a position on a shelf, near the glass if possible. Should the various sites where the main portion is to flower not have received attention, this work should now be taken in hand. Sweet Peas delight in a good depth of soil with a liberal addition of well-rotted manure and some burnt refuse worked in.

The Kitchen Garden.

Cauliflowers.—Plants growing in cold frames from September and October sowings must be well aired, more especially those which are to be planted out as soon as weather conditions allow. Those intended to mature in pots or in deep frames can be kept growing more freely. A small sowing of seed can be made now as a follow-on crop. With so many excellent varieties on the market to choose from, it is unnecessary to name any particular ones.

Cabbages.—Owing to the mild spell, the earliest planted of these are well forward and will prove very useful should the soft growth of some of the Broccoli fail to withstand a severe spell. Some of the earlier ones fared very badly in this district when we registered 23° Fahr. of frost about a week before Christmas. Should the gales have loosened any of the plants, take steps to have them made firm.

Roots.—Make use of wet days for looking over all stocks of roots stored in sand, etc.; also Potatoes, where not clamped in the open.

Tomatoes.—Keep autumn-sown plants nicely on the move in a temperature of 60° Fahr., giving air when possible. Pot on in 5-inch or 6-inch pots as they become ready, and avoid giving a check. Use chiefly a good fibrous loam for the compost with a little leaf-soil, rubble and burnt [illegible] Watch

carefully the later sown ones, and prick off when sufficiently advanced into small 60s, using a fairly light compost. In order to produce nice stocky plants grow in a light position near the roof glass

The Hardy Fruit Garden.

Gooseberries and Currants.—The rest of the pruning having been done, these may be dealt with. Keep the centre of the bushes well open, especially the Gooseberries, and remove branches having a tendency to reach the ground. As Black Currants should be dealt with soon after fruiting time—the method being to remove the oldest of the branches entirely and other weak or useless ones—we are now dealing with Red and White, which require spur pruning.

Spraying.—Where this is practised and there are a large number of trees to do, operations must soon be commenced. There are several first-class preparations by reliable firms, with directions, on the market, and more details here are unnecessary. Choose a mild and windless day, and follow the directions very carefully.

Grafting.—Should any of this work be contemplated, the stock may now be partially headed back in readiness; the grafts also selected and heeled in behind a north wall to keep plump until required.

Fruit Under Glass.

Later Vines.—If bunches should still be hanging, cut and place in bottles in the Grape-room, carefully removing faulty berries at the same time. Afterwards let the Vines receive a good watering with tepid water, and if signs of exhaustion have been noticed add a liberal amount of farmyard liquid manure. Pruning and cleaning having been attended to, keep the house cool and at rest as long as possible.

The Grape-room.—Aim at keeping an even temperature always, with an atmosphere gently moving; 45° Fahr. to 48° Fahr. will suit most varieties, but Muscats are better a few degrees warmer. Keep a strict watch for damaged berries.

H. TURNER
(Gardener to the Duke of Northumberland.)
Alburv Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Replanting Horse-radish.—Many beds of Horse-radish are in need of replanting for the sake of getting good juicy root lengths; this work may be readily done just now. Unfortunately Horse-radish does not often get the generous treatment necessary to produce the finest roots, but, as with most things in the garden, liberal cultivation will give the most satisfactory results, therefore dig the ground deeply, incorporating some well rotted cow manure and leaf-mould, leaving the ground fine and free. Pick out good strong roots of Horse-radish and divide them into cuttings about 8 inches long, dibble them in about 12 inches apart and about 18 inches between the rows with the top end about 2 inches below the surface; keep a quantity of old roots heeled in or pitted in sand for more immediate use.

Carrots.—Where it is convenient a hot-bed should be made up and a good sowing of the Early Short Horn varieties made, these being best suited for frame work. Before adding the soil, one would do well to make sure that the heat is, if anything, on the decline, for if the heat in the bed is excessive no crops will grow in it satisfactorily.

Salads.—A box of an early hearting variety of Lettuce may now be sown in a cool house for planting later into frames. Sowings of Mustard and Cress should also be made, any fresh saladings during the early months of the year being always in favour.

Early Peas.—For the earliest crop we generally sow in narrow boxes, 4 feet long and 4 inches wide and 5 inches in depth. Place some rough turf in the bottom and then sow in a fairly rich compost. Sprout the seed in a moderately warm house and then place in a cold frame to harden off before planting out on a warm border; by resorting to this method we are able to gather Peas much earlier and also escape the ravages of mice in our seed lines.

The Hardy Fruit Garden.

Raspberries.—Complete the tying of Raspberry canes as soon as possible and should the canes incline to be weakly, it is often advisable to try

a new plantation in a different part of the garden. It is not wise to dig much about the roots of the plants, a light fork over and then a good surface mulching of short stable litter being sound treatment for them.

Spraying of Fruit Trees.—Where the fruit trees are old and moss-grown there is nothing more effective for cleaning and re-invigorating them than a good spraying of Bentley's Concentrated Alkali. Owing to the dampness of our particular district, trees here were very subject to lichens, but after two or three seasons winter spraying the moss has now disappeared and the trees are ever so much more healthy and fruitful. Now that most pruning is finished, the spraying ought not to be delayed.

The Flower Garden.

Ground for Sweet Peas.—When the digging operations are on it is well to see that special attention is accorded the site for the planting or sowing of the Sweet Peas for the ensuing season. It is often desirable, from a certain point, to grow Sweet Peas on the same place year after year, perhaps with a view to screening a portion of the vegetable garden or other part. If this be the case, then it is essential that the soil be renewed, as nothing more enjoys a change of soil, and gives finer results accordingly, than the Sweet Pea. A trench about 2½ feet in depth should be thrown out and a layer of thoroughly rotted cow manure put in the bottom. Then fill the trench to within a few inches of the top with soil from the previous years Melon pits and Tomato boxes, and also, if it can be spared, a goodly sprinkling of broken turf from the stack. The extra work entailed will be amply repaid during the season by the additional vigour and flowering propensities of the plants.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock, N.B.

NEW AND RARE PLANTS

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Schroderæ var. Conqueror (L.-C. Bella alba × C. Maggie Raphael alba).—A magnificent novelty to which no pen-picture could do full justice. Outstanding varieties of this set have hitherto gained the same high award, though without hesitation we say that in the expanse of its flowers, breadth and lustrous purity of its petals and the intense wine purple of its lip the variety under review surpasses them all. Handsome and imposing, it is a novelty of which any raiser might justly be proud. From Baron Bruno-Schroder, The Dell, Englefield Green (gardener, Mr. J. E. Shill).

Odontgolossum Hypatia McBean's Variety (O. ardentissimum × Odontioda Diana).—A strikingly distinct novelty of ferrugineous red tone over which spreads an enriching sheen. Both petals and sepals have wavy mauve-coloured margins, their tips tapering and of unusual length. The lip margin is also coloured mauve. From Messrs. McBean, Cooksbridge.

AWARDS OF MERIT.

Odontioda Madeline McBean's Variety (Odontioda Charlesworthii × Odontoglossum crispum).—A remarkable novelty of terra-cotta red lightly chequered gold. The flowers are of exceptional substance and unusual texture. The gold fringed lip is a distinct feature.

Odontioda Cilleham var. Ada Evans (O. Joan × Odontoglossum illustrisimum).—Save for a narrow white margin, the whole flower is of a clouded chocolate tone, very solid looking and good. These were from Messrs. McBean, Cooksbridge.

Odontonia Ceres (M. Bleuana × O. Lawrenceanum Cobbianum).—In form this fine hybrid approximates to Miltonia, the sepals and petals soft yellow colour, the base of the lip marked with red. From Messrs. Charlesworth and Co., Hayward's Heath.

Charlesworthеara nobilis (Oncidium macranthum × Miltonioda Ajax).—The flowers are of large size, of a lustrous maroon and conspicuously tipped gold. The lip is also similarly [illegible] with gold. The much-branched raceme is ver suggestive of the Oncidium influence. Shown b Messrs. Charlesworth.

Odontoglossum Faustina (eximium × Dora).—A handsome novelty coloured white on mauv ground and with mauve suffused margin. Th lip is white tipped.

Odontoglossum Rufus (parentage unrecorded) —The flowers are of reddish violet hue with whit margin and lip. The petals are pointed an tapering. These were shown by W. R. Fasey Esq., Snaresbrook (gardener, Mr. E. J. Seymour)

Carnation Cupid.—A British-raised novelty of self pink colour and which gained an award o merit from the British Carnation Society i December last. Shown by the raiser, Mr. C Englemann, Saffron Walden.

Chrysanthemum Autocrat.—A pure white decorative variety, the flower-heads being o large size, in excellent condition and perfectly fresh. All were supported on strong 2 feet long stems.

Chrysanthemum Autocrat Incurved.—Differing from the last chiefly in form, this is also o the purest white. Both are of the highest value by reason of purity and their late flowering. Both these were shown by Messrs. Lowe and Shawyer, Uxbridge.

The foregoing novelties were shown before the Royal Horticultural Society on January 11, when the awards were made.

FUCHSIA DELIGHT, ONE OF THE BEST OUT OF DOORS.

FUCHSIA DELIGHT

THIS is one of the most satisfactory Fuchsias for summer use out of doors, the clear scarlet and white colouring giving it a specially clean and vivid appearance. It has a close resemblance to the old favourite Mme. Cornellison of the same colouring, and is probably a seedling from it, but the habit is rather better and closer and the bloom more abundant. It is not new, as it is a good many years since it was sent out by Messrs. Cannell, but among any collection of Fuchsias it always stands out as something specially bright and attractive. G. J.

DUTCH BROWN BEANS

To be used with Grilled Bacon as a Breakfast Dish

SOAK half a pound of Beans overnight, boil in salted water with ham bone, bacon fat or anything for flavouring until tender. Grease a fireproof dish and put in some of the Beans, a little Tomato sauce and a little golden syrup (about a teaspoonful); then add another layer of Beans, Tomato sauce golden syrup and so on until the dish is full. Pour over some brown gravy or stock, cover with lid, and bake for several hours in a slow oven until quite soft. If no fireproof dish is available, an ordinary piedish covered with a plate will answer the purpose quite well.

SUNROOTS

I HAVE seen Sunroots or Jerusalem Artichokes grown under a great variety of conditions, and it seems to me that some consider them so easy to grow that no particular care should be taken in cultivating the soil, or in selecting a proper situation for them. In some cases they may be planted in very shady situations because nothing else will grow there. I make no objection to that point of view; but where the whole garden is open I would give them the best of cultivation so that the desired weight of crop could be secured from the smallest space. Many discover that they grow too tall and cut down the stems to 3 feet or 4 feet, because they shade some other crop. That limits the possible weight of crop. If planted along the north side of a piece of ground, the stems cannot shade anything and should be allowed to grow as tall as they will. The east side of a piece of ground would be less objectionable than the west side, for the above reason. The same piece of ground, however, may be used year after year, if manured and dug deeply and trenched every third year. Last year I dug 127lb. from a line 24 feet long, so it is quite a profitable crop to grow. The soil was only 6 inches deep, overlying gravel, yet the stems were 8 feet to 10

EARLY VEGETABLES

ALTHOUGH the more favourable weather conditions experienced some seasons make the need for early vegetables somewhat less acute, there is generally, I think, a keen interest displayed in obtaining one or two kinds to add to the available supplies. Among the vegetables easily responding to early treatment is Asparagus, and seldom is an early supply of this delicious vegetable unappreciated. Place three year old crowns fairly close together on a gentle hotbed and cover with fine soil. An occasional watering, and some air admitted to the frame on mild days is all the attention necessary.

The French Bean, so well known for early work, is generally grown in pots in warm fruit houses, but failing such accommodation, excellent results may be obtained by sowing in rows in frames on a mild hotbed, or if sown in pots, plunge them in the material. Peas and Broad Beans are also easily managed if space is available. Pots, boxes or narrow borders will accommodate them, or again the ever valuable cold frame will give excellent returns several weeks in advance of anything which could possibly be expected from the most favourable position outdoors. Early Carrots and Turnips, too, easily respond to treatment in a frame with a mild hotbed. Another acceptable dish not difficult to grow is Seakale. Early supplies may be obtained by placing the crowns in large pots or boxes in a forcing house or Mushroom house, taking care to exclude all light, to ensure proper blanching. Another way is to place pots or boxes over some of the crowns growing in outside beds, and then cover the whole with leaves or a mixture of leaves and strawy manure.

Cauliflowers and Potatoes are two vegetables rarely obtained too early, but oft-times cannot be managed owing to lack of necessary room. The former will, however, yield excellent heads in 8-inch pots if space can be found, and also in a frame of sufficient depth. Potatoes are somewhat more easily managed, and a small early supply may be obtained from pots, boxes or narrow borders. Always use a light open soil and an approved early variety with not too much haulm. In all cases it is wise to select varieties of proved early merit when dealing with forcing vegetables, and a somewhat important point, when growing them in frames where there is no artificial heat, is to cover well up on cold nights. H. T.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

THE GREENHOUSE.

LILIUM HARRISII UNSATISFACTORY (*C. C., Surrey*).—As the bulbs have made roots very freely, it suggests that the failure of the flower-buds to develop is due to lack of food. This Lily is a gross feeder when cultivated in pots, benefiting by liberal supplies of liquid cow manure, guano and Clay's Fertilizer. It may be worth while saving the best plants and putting them outside in May

MESEMBRYANTHEMUM TIGRINUM (*Mauve Poppy' Tewkesbury*).—As the soil is so hard, thoroughly soak it with water. It should then be possible to remove the soil from the junctions of the parent plants and the two offsets. Sever the union between the parent and offspring with an old table knife. If roots are attached to the offsets pot up in the ordinary way. Failing roots, place the pieces in moist sand on a hot sunny shelf, or in a window facing south. March or April is the best time to divide the plant.

WINTER TREATMENT OF VARIOUS PLANTS (*H. B. P., Harcourt*).—Hydrangeas should be kept in a cool greenhouse, a frost-proof shed or in a cellar during the winter, keeping the soil fairly dry, though not dry enough to shrivel the roots. Plumbago capensis may be kept moderately dry at the roots in a cool greenhouse during the winter, which is the resting season. The name "Bottle Brush" is often used in reference to the arrangement of the flowers of Callistemon (Metrosideros) speciosus. This is a West Australian plant and requires cool greenhouse treatment similar to a Heath and Acacia. Passiflora floribunda requires little, if any, water during the winter. The long shoots may be shortened in early winter, but defer the final pruning until early spring.

TREES AND SHRUBS.

PRUNING VARIOUS TREES (*C. E. A., Ottery St. Mary*).—Ceanothus Gloire de Versailles should have

BROAD BEAN BECK'S DWARF GREEN GEM IN FLOWER.

the younger shoots shortened. Those secured to the wall may be shortened about half-way, and shoots standing out from the wall may be shortened to two or three buds. Buddleia Veitchiana may be pruned back to within a few inches of the ground. These two plants may be pruned at once. Prunus triloba should have its flowering shoots well shortened as soon as the flowers fade. The Cherry and Plums will probably require little other pruning than the removal of inside shoots and shortening of the longer branches; it is impossible, however, to suggest how much pruning is necessary without seeing the trees. If possible, our correspondent should get a local gardener to examine the trees, and no doubt he will give his advice on pruning them.

SOWING SEED OF PERNETTYA MUCRONATA (*E. E. B., Uckfield*).—Before sowing seeds of Pernettya mucronata the seeds must be separated from the fruits for if the fruits are sown whole, germination will be poor. The seeds may be sown in shallow pans or boxes indoors at the present time. Drain the pans or boxes well with crocks, and over the crocks place rough leaves or peat. On this place sandy peat, to within half an inch of the top, pressed moderately firm, over which a quarter of an inch of sifted peat and sand must be placed. On the smoothly-pressed surface sow the seeds thinly. Cover the whole with a sheet of glass, shaded with paper, and water by soakage, holding the pan in water and allowing the water to soak upwards. It is unnecessary to cover the seeds with soil. When the seedlings are large enough to handle, prick them out an inch apart in boxes, afterwards placing them in nursery borders.

GREEN DUST ON TREES (*E. B., Newbury*).—The green dust on tree trunks is neither lichen, moss nor mould, but an algæ and one of the simplest of green plants. Green, and therefore able to do everything for itself, including the making of its own food; simple, for it consists of one cell only, microscopical in size, yet able to carry on all the functions (apart from the production of many parts), of a large green plant itself.

MISCELLANEOUS.

APPLE ORCHARDS (*F. G., Heswall*).—Good Apple orchards are to be found in the neighbourhoods of Wisbech and Maidstone. The best plan would be to visit those towns and get into touch with the various fruit-growing firms.

NAMES OF PLANTS.—*F. G., Heswall.*—Azara microphylla.——*E. M. M., Sussex.*—1, Garrya elliptica; 2, Leycesteria formosa (brown flowers).——*H. N., Henley.*—"Sea Buckthorn" (Hippophæ rhamnoides).——*A. B., New Zealand.*—From the description given we think the plant to be a pure white form of Pæonia albiflora. It is impossible to name with certainty without seeing a specimen. Please send a dried specimen. The running habit is unusual.——*E. H., Lockinge.*—Juniperus chinensis, juvenile and adult forms.——*A. O. W., Abergavenny.*—Liriope spicata, var. variegata.

Around the Markets

FLOWERS generally are very scarce, and it is only the retailer with a high-class trade who can afford to buy enough to make a decent window show. Paper White Narcissus, which only quite recently were almost given away, are now at famine prices, for there is at the moment a scarcity of these flowers. On one day this week only a solitary pad of Paper Whites of really good quality was for sale, and that fetched 72s., which works out at 1s. 6d. per bunch, and these were precisely similar to those my *confreres* and I were able to sell from our barrows at 2d. per bunch a fortnight before Christmas. Such is one of the results of the cold snap which came along a few days later and induced the weather prophets to predict the "old-fashioned Christmas weather," which did not materialise. These Paper Whites are all grown out of doors in the South of France, so it is evident that the weather in the Sunny Riviera is as uncertain as ours.

With Paper Whites so dear, it follows that Soliel d'Or and Golden Spur are even dearer; the best of the Daffodils have been just double the price of the Paper White Narcissus. On the other hand, Mimosa and Violets from across the Channel are decidedly more plentiful, and English-grown Arum Lilies are over plentiful and quite cheap. The frost is again to blame in the case of the Arums. Many growers intended to have good batches for Christmas, but those few days of cold weather arrested development, and now there is a glut with very little demand. This is only one of the disappointments of the grower for market, and the loss is, of course, considerable. Lilium longiflorum and the like are in a similar state for the same reason.

The new flowers, though not in any quantity, are Snowdrops, Wallflowers and forced Lilac, and these give quite a spring-like effect. Carnations are not so much wanted, so their prices will have to come down. Somewhat anæmic Chatenay Roses find purchasers at prices which leave "A. Coster" breathless.

Among the Guernsey Freesias were to be seen some of the comparatively new coloured varieties, but it is the old F. refracta alba that is most wanted.

Among pot plants are some attractive little plants of the Bird's Nest Fern, which I am told is known to scientific people as Asplenium Nidus Avis, and when fully grown has fronds over 5 feet long, so that, if they live, these fascinating little plants will not do for the front window.

Fruit of most seasonable kinds is very plentiful and reasonably cheap. Many of the Apples now to be had are from cold storage, where they were placed when too many were arriving, but with 20,000 cases from the Cape expected and the regular Western supplies it was time to clear them out. Oranges and Dates are also quite cheap and good. Home-grown Grapes are still too cheap to be profitable.

Green vegetables are at a premium, and here again the cold snap is responsible. Kale was just previously overplentiful and soft, so there is very little now, and Cabbages have risen greatly in price. Asparagus does not seem to appeal strongly to the New Rich, and prices were so unsatisfactory that supplies from France have ceased.

Canary Tomatoes are quite good samples and very cheap, though for quality they cannot compare with the English and Guernsey-grown which have just finished.

January 14. A. COSTER.

TRADE NOTE.

JOSEPH BENTLEY, LIMITED.

HAVING acquired the goodwill of the old-established business formerly carried on by Messrs. B. Eddy and Sons at Torleven Works, Porthleven, Cornwall, Messrs. Joseph Bentley, Limited, are now supplying all the goods (nettings, shadings, strings, &c.) hitherto supplied by Messrs. Eddys. All orders should be sent direct to J. Bentley, Limited, Barrow-on-Humber, Hull.

PUBLICATIONS RECEIVED.

The Orchid Review, November—December, 1920, edited R. A. Rolfe. Published by Frank Leslie and Co., 12, Lawn Crescent, Kew Gardens, Surrey; price 1s.

"The Sweet Pea Annual, 1921," edited by J. S. Brunton. Published by the Sweet Pea Society. Copies may be obtained from the Secretary, Mr. H. D. Tigwell, Greenford, Middlesex; price [illegible]

"Willing's Press Guide, 1921." Published by J. Willing, Limited, 125, Strand, W.C.2, and 33, Knightsbridge, S.W.1: price 2s., post free 2s. 9d

POULTRY NOTES

By W. POWELL-OWEN, F.B.S.A.

HOW much happier would poultry-keepers be if their cocks and cockerels did not "scrap." The duck-breeder is faced with no such terrors, as ducks and drakes are not such "squabblers." Of late I have received many letters from readers asking what should be done to make the males agree.

Care of Cockerels.—When kept together from a young age cockerels will agree almost to the time that mating-up comes round; but adult cocks give more trouble. As we are on the eve of the hatching season, it may be timely to describe a cockerel house and pens used by Mr. Leslie Williams on his poultry farm at Easton, Grantham. It consists of a continuous house divided into 3-feet compartments, each fitted up with a drop-board and perch. Each inner compartment has an outer wire-netting run, which is boarded up at the bottom to prevent the inmates fighting with their neighbours through the wire-netting. Having a walk down the centre, the house has compartments down each side with runs front and back. During the growing stages several cockerels are reared together in each compartment and outer run, and when those birds reared for stock are sold to customers, only the males intended for home use are kept on, each having a compartment and run.

Selection of Cockerels.—Where rearing is carried on extensively such a house will easily repay its cost of erection, and specialist breeders of stock cannot boast of a complete or up-to-date plant without such a structure. The cockerels are not knocked about as on the "flock" system, and each bird has a fair chance to develop. Even small poultry-keepers should take steps to have a special department for the males. It is very unwise to keep but one male; it is far sounder to run on several selected ones to maturity, so that the final choice can be made. The small poultry-keeper might make use of the "cockerel-box" type of house. This is a small structure used for the growing chickens after they leave the foster-mothers and do not require artificial heat. One can divide each into two compartments, fit up movable dropboards and perches, and erect small wire-netting outer runs. A knowledge of carpentry is a very valuable asset to poultry-farmers who can then erect any small houses needed.

A Question of Plant.—On the eve of the hatching season a warning might be given about over-rearing. Many poultry-keepers go through the season hatching out brood after brood without any thought as to the plant to accommodate the number. Not a few possessing an incubator for the first time are so anxious to put eggs into it that they forget a foster-mother is needed wherein to rear the chicks that come out. It is the greatest mistake to set any eggs before the programme for the season has been mapped out. Overcrowding means heavy mortality among chickens, and one cannot afford to risk it. Therefore if one has plant sufficient only to accommodate a hundred youngsters, do not rear a greater number. If one desires to rear more, then be sure to increase the plant beforehand.

Drop in Egg-production.—Each year about this time I receive letters from querists who wish to know why they have experienced a drop in egg-production. Commencing to lay early and well, there has been a sudden drop in the supply of eggs, leaving the owners quite nonplussed as to the likely causes. One of the main causes is lack of tone, and this more often than not follows a course of underfeeding. When in full flush of lay pullets need a liberal diet if heavy egg-production is to be maintained, and it is for the owner to see that underfeeding does not take place and that the tone of the birds is kept up. In some cases this lack of tone follows a change of foodstuffs and to a mash that is not so nourishing as the previous one. Too many poultry-keepers think in quantity as against quality in feeding, as well as other departments. The quality of the ingredients of both grain and meal mixtures is vitally important, and all who keep poultry should get to know what are good and bad samples of foodstuffs.

Changing the Menu.—I have repeatedly warned my readers against completely changing their mashes and the dangers brought on by sudden changes. Poultry need a change now and then if only to keep the appetites keen, but only the basis or foundation of the mash should be altered. On any system where Sussex ground oats or biscuit-meal forms the basis one can withhold the one for the other now and then, and sometimes give half of each. When layers have been brought into full production on a given mash, why change it for another? I am, of course, referring to the winter egg season that runs from October to March inclusive, because in the summer "anything in feathers" will lay well. In the majority of cases I am sure it is for want of an objective, the owners not knowing what constitutes successful winter egg-production. If they will work for my four eggs per bird weekly average a complete change of feeding is unnecessary once the number is obtained.

Foods and Feeding.—It is dangerous to think of quantities only when feeding for egg-production. One can obtain eggs in plenty on a tea of 2½ozs. of wet mash per bird per diem, providing it is well blended; but one could not expect eggs on 2½ozs. of bran scalded and dried off with bran. The fowls must be able to get nourishment out of the food, and before they can do this quality must be in the foodstuffs. If the mash lacks body it may bring the birds on to lay, but is not nourishing enough to keep them at it over the winter season. In like manner, if one is using a sound feeding mash and changes it for another of less value the birds lose tone and there comes this drop in egg-production to which I have referred. Many accidently fall into the trap by relying on complete meals, some brands of which are excellent, while others are of quite low value from the viewpoint of egg-production. It is a pity that it is not [illegible] mixtures to carry a list of the ingredients therein. No small poultry-keeper cares to pay a guinea or two to have a complete analysis made, so that we must buy approved mixtures and use discretion.

Feeding the Adult Hens.—Never get into the habit of thinking that anything will do to give to poultry. One can maintain birds on a cheap menu, but eggs are produced by food and nourishment left to the bird after maintenance has been attended to, also the repairs. Adult hens need very careful attention during the moult, and once the new feathers commence to come through, short rations will prove harmful. To get the adults over the moult they need a liberal diet, and then they will be brought into condition safely and early. That is easy to understand if it is taken for granted that the moult places a very severe strain on the system. That is the danger of relying on hens for breeding purposes, as they do not come into laying condition very early unless especially cared for.

Breeding from Hens.—Hens that are not well fed and housed while the new feathers are growing will "hang in the moult" and be late in restarting to lay. As a consequence, eggs from them are not fertile till late, and very few eggs can be incubated to get early chicks. One can do much to get them fit by judicious and liberal feeding, and the next item of vital importance is to keep the birds protected from the unfavourable elements. To let moulting hens have free range when they are getting their new feathers, thereby being unprotected from changeable weather, is to see them "hang in the moult." On unfavourable days confine the hens to their scratching sheds or intensive houses, where they can have plenty of scratching exercise and shelter until the new feathers are well through. Apart from the drawbacks, the best mating is undoubtedly adult second-season hens and a vigorous yearling cockerel.

Those Early Pullets.—To breed continuously from pullets is not a sound proposition, because, starting to lay in October and continuing right through to March, it is rather unwise to expect them to continue as breeders to yield robust chicks. But the use of pullets now and then is in order where circumstances force this mating, but one should use with them an early vigorous cockerel. The advantage of using pullets in the breeding pens lies in the fact that eggs are forthcoming early in the season and one can get on with hatching nice and early. Everything points in favour of the very early-hatched pullets. Brought out in February, say, in heavy breeds, these pullets will lay in the late summer and early autumn, go into a partial moult, and come up fresh for laying and mating.

ADVICE ON POULTRY MATTERS.

Mr. W. Powell-Owen, THE GARDEN *Poultry Expert, will be pleased to answer, free of charge, any question dealing with poultry-keeping. A stamped and addressed envelope should be enclosed, when a lengthy and detailed reply will be posted promptly. Communications should be sent to Mr. W. Powell-Owen, care of* THE GARDEN, *20, Tavistock Street, Strand, W.C.2. Samples of foods (report thereon and suggested use), 1s. 6d.; post-mortems, 2s. 6d. each. Send samples and dead fowls (latter by rail and letters under separate cover) direct to W. Powell-Owen, "Powell-Owen" Poultry Bureau, 47A, High Street,*

THE GARDEN

No. 2567.—Vol. LXXXV.] [January 29, 1921.

FLOWERS from SEED for the COMING SUMMER

WE are now on the threshold of a busy season and within the next few weeks garden lovers in all parts of the British Isles will be sowing seeds of summer flowers. The kinds that are commonly classed as half-hardy annuals are sown in heat—that is to say, in a moderate greenhouse or frame—afterwards pricked off separately in boxes and planted out at bedding time. Among the earliest sown, as soon as may be after the middle of February, are the splendid Snapdragons that are now to be had in so many fine varieties. They have different names in the various seed lists, but one may say that the most generally useful are—of the tall kinds, white, yellow, pale and deep pink and the deep blood-crimson with dark foliage; and of the shorter kinds, called intermediate, white, yellow and pale pink. An early sowing of Hollyhocks and Pentstemons is also desirable, for though they are both commonly treated as biennials, if sown early they will flower in the late summer. We also advise an early sowing of the two handsome annual Daturas, D. ceratocaula and D. Cornucopia, pushing them on as quickly as may be so that they have time to make their rather large growth and handsome trumpet flowers before the end of the season. Then will come the time for raising Salpiglossis, Zinnia and Verbena, and, by the end of February we are sowing Lobelias, both the tall scarlet and the dwarf blue bedding kinds, following in March with Alonsoa, Nicotiana, Stocks and Asters. Maize comes later, and the last of all, about the third week of April, Ageratum, Amarantus, Marigolds (both French and African), Tropæolums and Sunflowers

The summer garden at Munstead Wood, [illegible] has a main planting of groups of Dahlia, Canna and Gladiolus, leaving considerable spaces, which are filled with the prepared annuals. Near the edges there are also Geraniums and scarlet Salvia. The annuals are grouped between, and at their blooming season are of equal importance, some even of greater, for nothing can exceed the brilliancy of display of a patch of orange African Marigolds, or make a brighter edging than some of the miniature forms of the same plant or of the dwarf Tropæolums. It is all arranged for good colour effect, tender colourings at the two ends coming gradually to a culmination of gorgeousness in the middle. The colour sequence is composed thus: for the beginning, at the back, white and yellow Dahlias intergrouped with striped Maize; then half way forward Lilium longiflorum and the beautiful pale yellow Gladiolus Lily Lehmann, fortunately one of the less costly kinds; and quite to the front a favourite mixture of Calceolaria amplexicaulis and the variegated Mint, Mentha rotundifolia. Some groups of nearly pure white flowers follow; the fine double Pyrethrum Mrs. Sander, and, as an accompanying annual, the dwarf white Cosmos, a plant much improved by being pinched back two or three times, for it then becomes more bushy and fuller of bloom. Then come some pale pink flowers, Pentstemon, Geranium and large drifts of Snapdragons. The colour then gradually deepens till, towards the middle of the garden's length, we come to the strongest reds. Here are again Dahlias, Gladioli and Pentstemons, with Geraniums and scarlet Salvias to the front, with more of our annuals, or plants grown as annuals—the brilliant scarlet, dark-leaved Lobelia cardinalis, the tall, dark red Snapdragon, also with dusky leaves, and at the back, among the red Dahlias, Ricinus Gibsoni with richly coloured foliage.

The annuals named are only some of the many that can be used for summer bedding, for there are, besides, the gorgeous Indian Pinks and the dwarf Phloxes and several other good plants; but quite enough have been indicated for the making of a fine effect in any one garden.

A LOVELY ANNUAL (RHODANTHE MANGLESII) FROM SEED SOWN ON A SUNNY BANK.

The Swan River Everlasting Flower Rhodanthe Manglesii.—These charming Australian annuals require careful observation when first appearing through the soil, as in this early stage slugs devour them greedily. They have become such established favourites here that we decided to sow the seeds from April to July in order to prolong their season of bloom. The illustration depicts a small group of R. Manglesii sown as late as July and which has been most effective even to the end of November. The pretty depending flowers are rose coloured, with a conspicuous yellow centre, silvery on the outside. R. maculatum has silvery pink flowers, with a crimson inner ring and yellow centre. There is also a white form of this.—E. Markham, *Sussex*.

FORTHCOMING EVENTS

February 1.—Royal Caledonian Horticultural Society's Meeting

February 7.—National Chrysanthemum Society's Annual Meeting. Nottingham and Notts Chrysanthemum Society's Meeting

CORRESPONDENCE

(The Editor is not responsible for the opinions expressed by correspondents.)

"CYANIDING A VINERY."

I NOTICE under the above heading (THE GARDEN, January 8) the use of sulphuric acid and water. My object in writing to you is to caution anyone against *adding water to sulphuric acid*. If this is done, the very violent reaction will probably cause globules of the acid to fly all over the place, with possibly grave results. The *acid should be added to* the water, gently stirring meanwhile with a glass rod. The cyanide fumes will be released very rapidly by the acid, and every precaution should be observed. —G. BERTRAM KERSHAW, *Westminster*.

BUTTERFLIES AND FLOWERS.

WITH regard to the interesting discussion which has recently taken place in THE GARDEN as to the flowers most frequented by butterflies, I have for many years kept notes of the most attractive flowers. For the Van-Essids, the Buddleia, with the pendent lilac racemes of flowers, is one of the most favoured; Valerian, Heliotrope and Lobelia are also attractive. Thistles, Ragwort, Bugle and Scabious in their season are very frequently visited. The liking of the hawkmoth for Petunia and Nicotiana affinis is well known; while Verbena is often visited. As regards nocturnal moths, there is little to beat Ivy and Sallow blossoms.—G. B. K., *Westminster, S.W.*

CHRYSANTHEMUM MME. R. OBERTHUR.

IN the ordinary method of culture for large blooms this variety is quite early flowering, but when grown on the stopping principle it is an excellent December-flowering variety. Pure white in colour, with medium-sized petals which fall gracefully, building up compact, useful blooms for decoration in a variety of ways. I lately saw a batch of plants that were put out in the open ground in May, allowed to grow away uninterruptedly, reaching 4 feet high. In October they were lifted and planted at the base of a vinery wall, where they are now (mid-January) flowering in profusion.—E. M.

A SELECTION OF SWEET PEAS.

THE greatest difficulty about Sweet Peas is the selection of varieties, and, in growing a limited number, many one would like have to be discarded. I am sending the selection of eighteen Sweet Peas I am trying this year, and I think it will take some beating: Constance Hinton, Unwin's Cream, Unwin's Pink, Daisybud, Royal Purple, May Unwin, Mrs. Tom Jones, Charity, Gladys, Hebe, The Queen, Red Ensign, Elegance, Mrs. J. T. Wakefield, Warrior, Royal Scott, Picture and Unwin's Lavender.—A. W. KIDLEY, *Tny-y-Wain House, Pentyrch, Cardiff*.

SWEET PEA HAWLMARK PINK.

I WAS very interested reading Mr. Lambert's remarks on Sweet Peas in your issue of January 1, and with his selection of varieties there is not much to criticise; but in the last paragraph, where he to some extent apologises for leaving out Hawlmark Pink from his selection, he makes a statement which I think he will find very difficult to substantiate. He says this variety gives two colour types; it certainly does! but the break from the original is distinctly brighter, with a touch of salmon in the colouring, and not a pale Hercules, as Mr. Lambert suggests. I have had the pleasure—and a great pleasure it has been, too—to see this growing for two or three seasons at Messrs. Dickson's. Last year I also saw it in quantity at several places and, incidentally, my firm grew many thousands of plants, both under glass and in the open, and never yet have I seen one plant that by any stretch of imagination might be termed a pale Hercules. I think were this variety liable to give plants of the colour named I should have at least seen one of them, and though they may have been rogued at Messrs. Dickson's and other places where they were being grown for seed, such was not the case here, and knowing what I do of this variety, I do not think it could possibly throw a rogue of either Hercules shape or colour; hence my venturing to criticise a statement which I look upon as being very damaging to a really excellent variety of Sweet Pea.—THOMAS STEVENSON, Messrs. Lowe and Shawyer, *Uxbridge*.

THE SNOWDROP.

I kiss the drooping Snowdrop,
It looks so pure and sweet;
Just as if direct from heaven,
In robes of white complete,
As I admire I wonder why
It hangs its head, and looks so shy.

I lift it very gently,
It seems uncanny frail,
Trembles at the slightest touch
Like breezes move a sail,
But when I look into its face
I see outlined its perfect grace.

My soul is lost in wonder,
Such beauty moves my heart!
The work of fairies surely this
Or else an angel's art!
Here shines out loveliness supreme,
One wonders if 'tis all a dream!

Pray linger in my garden,
Till winter days depart,
And let me revel in thy charms,
To soothe my aching heart,
And when you take your interlude,
Please carry too my gratitude.

Lynmouth. A. PARKER.

ARALIA SIEBOLDI.

I WAS glad to read Sir Herbert Maxwell's note on this subject in a recent issue of THE GARDEN, for I had just seen a fine specimen of this shrub growing in a cottage garden in this district. This was towards the end of November, and the plant was then in full bloom, bearing a large number of its branching flower-heads, whose creamy white was rendered the more attractive by reason of the handsome, rich green, glossy foliage. The dimensions, at a guess, of this plant would be 8 feet high and 5 feet through, the foliage coming well down. The aspect was due north. In my own garden a much smaller specimen has just stood 16° of frost and is apparently unharmed. Although A. Sieboldi (Fatsia japonica) turns a sickly yellow if exposed to too much sun, it does not appear to bloom freely in complete shade.—A. T. J., *North Wales*.

PRIMULA GRANDIS.

HIGH expectations arise in the mind when we think of the name of Primula grandis or see it in catalogues to tempt the purchaser. But only those who have known and grown it can fully realise the disappointment which awaits the ardent Primula-lover when [illegible] of his care and expectant thoughts. Not that P. grandis has not about it some features to justify its name to the proud title of "grandis." It has, for example, magnificent heart-shaped foliage, which the grower would admire for itself. Then it has a tall, graceful stem, surmounted by elegant pedicels which carry the flowers, and are of much delicacy and grace themselves. The disappointment lies in the flowers, which we naturally expect to be large in size and of some grandeur. On the contrary, they are very small, tubular in form and yellow in colour—and that not of a bright hue. So the early promise suggested by the fine foliage and the tall growth is falsified when the flowers are at their best and the ordinary man expresses disappointment. It comes from the Caucasus and appears to delight in a moist soil, though one which is well drained. The writer grew it in a most sandy soil, where it throve and flowered quite well. It can be raised from seeds, but as it makes offsets fairly freely, it is speedier to increase it by division after flowering.—S. ARNOTT, *Dumfries*.

COUVE TRONCHUDA.

IT is to be regretted that the most useful vegetable, Couve Tronchuda, or Portugal Cabbage, receives such sparse attention from the average gardener. As a rule it is found that from the gathering of the last dish of Runner Beans to cutting the first Savoy, Broccoli is the only standby. Let it be said that Couve Tronchuda fills a place along with Broccoli, which come to maturity in late autumn; that it is an acceptable and profitable dish, so profitable, indeed, that unlike ordinary Cabbage, most of the leaves and stalks are edible. Seed sown in the open ground in April will provide plants, which, if treated as winter greens, will furnish food for the table from October for a couple of months at least, but in a comparatively mild winter as we had up to the middle of December, it yielded many baskets. One condition for its successful culture is that it must have plenty of room, being of a branching habit, and, in well manured ground, 3 feet each way is not too much. Though little known, I regard the Portugal Cabbage, from its delicate flavour, as worthy of a place in a garden where variety in green vegetable in autumn is appreciated.—W. LINDERS LEA.

GERANIUM PHÆUM.

THE variegated leaves of this plant mentioned recently by Mr. A. T. Johnson are very remarkable and doubtless handsome, and it is interesting to know that the progeny bear similarly blotched or stained leaves. In Switzerland the Dusky Geranium is both rare and local, as in Britain. Abroad I have much more frequently seen a dirty lilac variety, which Grenier and Godron allude to in the "Flore de France" as G. lividum, L'Héritier, and describe as "d'un lilas livide." This colour-form is frequent at about 5,000 feet in parts of Western Switzerland, as about the Col de la Forclaz on the frontier between Martigny and Chamonix. It probably occurs in other countries besides France and Switzerland.—H. S. THOMPSON.

"REFLEXING IN DAFFODILS."

"SOMERS'" letter in THE GARDEN of January 15 under this heading seems to throw out a challenge to Daffodil raisers and their ideals, for I think we are all striving for the nicely balanced flower which looks well when viewed sideways as well as full face. Of the many qualities we look for in our seedlings, beauty of form is by no means the least important, and we note most critically the behaviour of the

ASTERS NINE INCHES ACROSS GROWN IN A COMPOST CONTAINING PEAT DUST.

charm to some flowers—for instance, the Triandrus and Cyclamineus; and there are many varieties in the other classes which have more or less reflexed segments and are very lovely, but a flower that lays back three of its petals and leaves the remaining three more or less flat neither looks well full nor side face and rather reminds me of a dog that carries one ear cocked forward and the other folded back. This may give a sense of variety in distance and shadow, but how many people are there who admire it? Those beautifully rounded petals of the Poeticus and the Poeticus Barrii should be firm and flat, or nearly so, and all of the same mind! I look upon the complete reflexing of all or some of the petals in this particular type of flower as a defect, and that not only from the old-fashioned "florists'" point of view. Ask Mr. Chapman, than whom there is no one with a better eye for grace of form in the Daffodil, what he would have added to the wonderful colour and texture of Crimson Braid to make it a perfect flower.—W. A. WATTS, *St. Asaph, North Wales.*

A FINE GROUP OF ASTERS.

THE individual blooms of the Asters, as seen in the accompanying illustration, were 8 inches to 9 inches across and were raised from seed supplied by Messrs. Sutton and Sons, Reading, in the following manner: The seed was thinly sown on March 20 last year, in a cool greenhouse, in boxes, 14 inches by 10 inches by 2½ inches, filled with ordinary garden soil, well mixed with fine silver sand. As soon as the seedlings were of a size to be comfortably handled they were pricked off, 2 inches apart, in boxes 6 inches deep filled with the following compost: Two parts good garden loam and one part peat dust, with sufficient coarse silver sand to ensure thorough drainage. Our reason for using peat dust is this: We have found from careful experiment that by its use the soil is kept in such excellent open condition that when the time comes to plant out the young Asters in their permanent quarters (here early in June) they can be easily lifted out of their boxes with the forefinger, having a large ball of earth attached and none of the fibrous roots damaged; hence they get no check whatever. I may say we use exactly the same compost for Antirrhinums, Phlox Drummondii, etc., with equal success. — J. L. COTTER, *Annmount, Glos.*

AN EARLY CROCUS

YOU may be interested to hear that on January 1 I noticed a violet Crocus in full bloom, and several others during last week, a thing I do not remember before. Surely this is exceptionally early for Northumberland, as the Snowdrops (also early this year) are only just beginning to show flower. Of course, it has been an extraordinarily mild season, and the Daffodils have been well above ground for at least four or five weeks. Aconites are also in flower, and even Tulips are beginning to show.—IVY ATKINSON CLARK, *Belford Hall, Belford, Northumberland.*

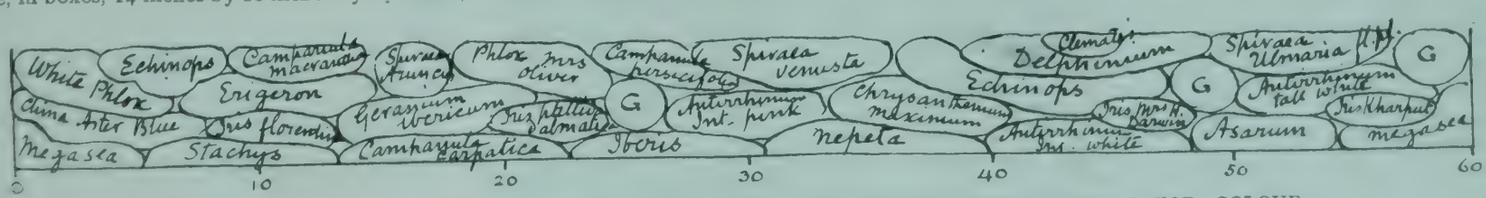
BLUE LEGS.

THAT was an interesting note by "J. P.," page 16, on Agaricus personatus. I am not wise in the matter of edible fungi, though I am always interested in them. Are the Blue Legs a purely local fungus peculiar to the Gloucestershire country, or is it only the custom of eating it that is local? In this neighbourhood the Morell is found in early summer. It grows, I believe, under Elm trees, though I do not know its exact station. This season the crop failed. There is a certain fruit and vegetable shop in Hitchin which specialises in it. It is a most toothsome delicacy and may either be cooked fresh or dried and used for flavouring, and rather resembles fasciated macaroni. Another very delicious fungus is Boletus edulis, and though I believe it grows around Stevenage, I am not very certain about distinguishing edulis from other species, which resemble it but may be poisonous. So hitherto, I have left it alone in these parts though I experimented with it in South Africa, years ago, and found it excellent. I met some French workers on a wine farm gathering fungi in a wood. They told me that they ate them and assured me that they were excellent. From above they looked like rather large penny buns, and beneath they were greenish yellow sponge and rather revolting-looking. Some weeks later I found apparently similar fungi growing in another district and took several home, but I felt that unless one is a specialist it is better not to rely upon a superficial resemblance. (In gathering strange fungi for the table a little knowledge may prove a painful thing. However, I cooked up a couple with some tasty scraps of meat and gave them to a dog who was not very popular in the house just then. He ate them with joy and came up smiling next day, and on the strength of that I took to Boletus and had many a good meal of them, though I could never induce anyone else to touch them. They were much more fleshy than Mushrooms, and also more tender and delicate, and they had the Mushroom flavour.—CLARENCE ELLIOTT, *Stevenage.*

A FIVE-FOOT FLOWER BORDER

I SHOULD be grateful if you would kindly advise me as to the best perennials to get for a new border I want to plant. It is 60 feet long by 5 feet wide, and runs north–south, with a 3-foot wall on the western side and a lawn on the eastern. Outside the wall is a Pear orchard with trees partly overhanging the border. I should like most of the herbaceous plants to flower in July-August, but some to be in bloom at other times. I have renewed the soil with good top spit loam and well manured it.—P. T., *Somerset.*

A border for summer flowers 60 feet long by only 5 feet wide and facing east hardly gives scope for the most effective planting, but would be best treated with a restricted arrangement for colour, such as is suggested in the accompanying sketch. By planting in fair-sized groups of not too many different kinds of plants some kind of sense of harmony and unity would be gained. The colouring proposed is white, pink and purple. The letter G stands for Gypsophila paniculata, the Clematis at the back of the group of Delphinium is C. Flammula; it is meant to be trained over the Delphiniums when the bloom of these is over and is cut off, leaving the stems standing about 5 feet high—just right for the support of the Clematis, which a little later will spread also over the Echinops when the colour of the bloom of this is fading, about the third week in August. The Gypsophila especially and some of the other groups of strong-rooting perennials cannot come to their full strength for a year or two; it will therefore be well to have ready, for the first two years at any rate, some other hardy and half-hardy annuals for filling up besides the China Asters and Antirrhinums. Among these the most useful will be Lavatera trimestris, suitable for any back spaces—the old pink kind rather than the so-called "improved"; Godetia Double Rose and the good annual Larkspur Delphinium consolida. The last is sold in separate colours; a good pink and the one called "blue," which is really purple, will be of use. These are sown where they are to bloom. Then of half-hardy annuals any others of the China Asters may be advised. of white and what is called "blue" but is really purple, and dwarf Ageratum for filling any spaces near the front. Those of the fine Scabious that are of the right colour, such as the ones named Snowball and Azure Fairy, will also come in well in middle spaces [illegible] the back



A NARROW BORDER OF SUMMER FLOWERS WITH RESTRICTED ARRANGEMENT FOR COLOUR.

ANNUALS FOR SUNNY AND SHADY PLACES

And for Filling Spaces in Newly Planted Borders

BY GERTRUDE JEKYLL, V.M.H.

Annuals for Sunny Places

So many of our annuals are natives of sub-tropical regions—some even of the tropics—that it is safe to say that quite three-quarters of them are suited for sunny places; in fact, it is comparatively rare to find among them cultivated forms derived from the flora of our own and equally temperate regions, such as the Foxgloves of the woods, the Wallflowers of old ruins, and the Cornflowers and Poppies of the arable fields. From the whole region of the Levant, from India, South Africa and South and Central America come the bulk of our annuals, those from the warmest regions being the ones we class as half-hardy. These are too tender to be sown at once in the open ground; it is not that they would not germinate, but that their progress would be so slow that they would not come to their flowering strength till too late in the season. They are therefore raised in heat in February and March, pricked off into boxes and planted out towards the end of May or early in June. These will include the greater number of those that do best in the warmest exposure—French and African Marigolds, Indian Pinks, Alonsoa, Ageratum, Phlox Drummondii, China Asters, Portulaca, Zinnia, Salpiglossis, Brachycome, Bartonia, Argemone, Tropæolum and others.

There are annuals also that are suitable for the hottest places in rockwork; in fact, this is the best place for little gems only an inch or two high, such as Grammanthes gentianoides, the tiny Blue Stonecrop and the little Nycterinia, more properly named Zaluzianskya, a charming little starry flower that should more often be grown in such a place as raised rockwork, where it can be brought near the eye and is not in danger of being smothered by plants of larger size.

PYRETHRUM AND GLADIOLUS IN THE SUMMER GARDEN AT MUNSTEAD WOOD.

HOLLYHOCKS IN LATE SUMMER.

Annuals for Shady Places

IT may sound rather Irish to say that the best annuals for shady places are biennials, but the statement may be allowed to pass, because for garden purposes annuals and biennials are commonly considered together. Places in shade other than those sheltered by buildings, will be near trees or shrubs, and the aspect will be anything between east and north. Such a place and aspect is specially suitable to some of the finest biennials, such as Foxgloves, Mulleins and Œnothera Lamarckiana. Where space allows of these being planted in a quantity of one kind at a time, distinct and fine effects may be secured. The pure white Foxglove, seen in shade, is one of the best of summer flowers; Verbascum olympicum, a towering candelabrum of pale yellow, and the quicker growing V. phlomoides, also tall and pale yellow, are only seen at their best in shade, for, except at dusk or in cloudy or drizzling weather, the flowers are never properly expanded when the plants stand quite in the open. The tall Evening Primrose also, when in shade, does not wait for the later hours to open its widespread bloom of tenderest yellow.

Of the true annuals the finest for a shady place is the tall Balsam, Impatiens glandulifera and especially the fine white variety sold as I. Roylei. The flowers are pure white, and the conspicuous stems and long-shaped leaves a light yellowish green. It will grow from 7 feet to 8 feet high; branching wide, with its sweet-smelling flowers of true Balsam form suspended in clusters from the ends of the branches and axillary shoots. There is also the fine Polygonum orientale, a tall, vigorous annual; the colour of the type is a strong magenta; but there is a pure white variety of great beauty, though it is not always to be had.

Among the Campanulas, many of them shade-loving, there are not many annuals or biennials compared with the numbers of the perennial species; but there is a whole series of fine things in the Canterbury Bells, in purple, light and dark, white and pink colourings. The biennial Honesty (Lunaria biennis) is also best in a shady place; also the Tobacco plants and the Rockets.

Annuals for Filling Gaps

ONE of the good uses of annuals is for filling up spaces in borders of newly planted perennials. Many of these are deep-rooted and will take a year or even more to grow to their full strength.

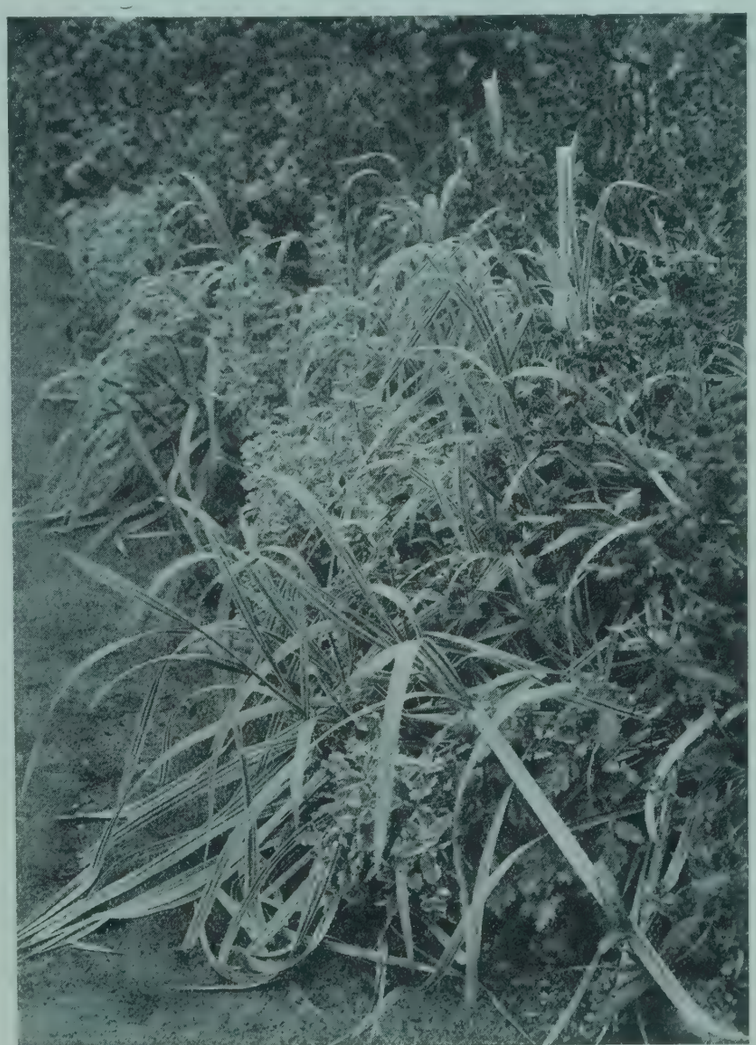
they should be placed so that both their groups and their individuals will stand right when the plants comprising them have come to reasonable maturity. When this kind of thought and care have been given, there will, necessarily, at first be gaps and spaces between. If these are filled with annuals, the hardy ones sown in place in March or early April, and the half-hardy planted out in May, the border will be well filled, the perennials meanwhile growing on and in a year or two filling their space and standing in well-shaped groups instead of being unduly crowded.

For back fillings with annuals of large size there will be Lavatera trimestris, Opium Poppies, the fine white Impatiens Roylei, Tobacco plants, striped Maize, Sunflowers and Atriplex hortensis; for middle spaces Sweet Sultan, Cornflower, several Chrysanthemums of the Coronaria class, tall Snapdragons, French and African Marigolds, Coreopsis, Gaillardia, Godetia, Malope, Lupines and Nigella; for the front Mignonette, the smaller Snapdragons, Jacobæa, Koniga, dwarf Marigolds, dwarf Tropæolums, Phlox Drummondii, Nemesia, Ageratum, China Asters and Lobelia. This list by no means exhausts the number of annuals that are good for filling, but includes some of the most useful and most easily grown.

A Handsome Grass

(GLYCERIA AQUATICA FOL. VAR.)

THERE are a certain number of plants whose bloom is of no value but that are prized for their beauty of foliage. Such a one is this handsome Grass, a great improvement on the striped form of the old Gardeners' Garters (Phalaris arundinacea), for the plant has a better way of growth and the striping is more regular and distinct; also, instead of being white it has a warm yellowish tone that matches almost exactly with that of the very useful variegated Mint, to which its form is a distinct contrast. These two plants form a delightful setting to such flowers of a clear, pale yellow colour as Calceolaria amplexicaulis and yellow Snapdragons. The plants shown in the illustration are rather overgrown and too loose in habit. To correct this known failing our practice is to lift and replant them in March or April. This gives them just the check needed for arresting the overmuch growth of late summer, but from press of work this useful precaution was neglected in the earlier year.



AN IMPROVEMENT ON THE STRIPED FORM OF THE OLD GARDENERS' GARTERS. (GLYCERIA AQUATICA FOL. VAR.)

Cleaning of Tree Stems

WHERE trees are grown in confined areas the stems are often overgrown with lichen and moss. For the worst examples there are special tools, such as wire brushes. A good spraying with some reliable winter wash will be found very beneficial in removing these parasitic growths. It is very essential that orchard trees should be treated in this way, particularly where the orchard is laid

THE SPACING OF ANNUALS

A Useful Guide in the Growing of Some of the Most Beautiful of Flowering Plants

THERE may be among the readers of THE GARDEN some who have not had much experience in growing annuals and to whom some advice about the space required for various kinds may be of service. The first thing in the case of those that we know as hardy annuals, that are sown direct where they are to flower, is to be sure to sow thinly. Thick sowing is a double loss, for it not only wastes seed, but when the seedlings come up like a close turf there is no possibility of proper thinning. They should come up not touching each other, and as soon as they can be handled should be thinned out to a certain distance apart, according to their kind. All good seedsmen's lists give the height of the plant, and it may be taken as a safe rule for anything within 12 inches to 15 inches high, that the plants should be thinned to a distance apart equal to two-thirds of the given height. Thus, if the height stated is 6 inches, the seedlings should stand 4 inches apart. Plants of a greater height may have rather less space, especially if they are of an upright habit, such as that of the large Opium Poppies, which may be left at anything from 12 inches to 15 inches. A little experience will show how this is, for an annual of bushy, branching habit, such as Lavatera or Blue Cornflower, will want more space in proportion to height than anything that is more upright. Climbers are, of course, spaced much nearer in proportion to their height.

There will be a considerable difference to be considered between kinds sown in autumn and the same sown in spring; those sown in the third week of September grow very much stronger than those sown in March. Thus, a plant of the charming blue Nemophila, that one would thin to 9 inches if sown in spring, may if sown in autumn cover a square yard of ground. The following list of distances apart for some of the best known annuals may be a useful guide to those who are feeling their way in the growing of some of the most bright and beautiful of flowering plants:

Sunflowers, Impatiens glandulifera, Ricinus, Maize; 2 feet. Sweet Peas, Convolvulus major, Tropæolum canariense; 9 inches. Lavatera, Nicotiana, Cosmos, Lupines, Malope, French and African Marigold, Chrysanthemum coronarium, tall Snapdragons; 12 inches to 15 inches. Sweet Sultan, Coreopsis, Scabious, Linum grandiflorum; 9 inches to 12 inches. Gaillardia, Nigella, Godetia, intermediate Snapdragons, Calendula, Eschscholzia, Mignonette; 9 inches. Sweet Alyssum, Jacobæa, Ageratum, dwarf French Marigold, Phlox Drummondii, Indian Pinks, dwarf Nasturtium; 4 inches to 6 inches.

The Bridal Wreath

(FRANCOA RAMOSA.)

I OFT-TIMES wonder why this plant is so very seldom seen in gardens, at least in Scotland. I have a plant in my garden which has grown in the same spot undisturbed for the past seventeen years. It has never had the slightest protection of any kind, summer or winter, and it flowers regularly every season. I do not think it has grown any larger or smaller during all these years, nor does it seem to be attacked by vermin of any kind, not even the rabbit. The spot on which it grows is slightly raised, but sheltered in no way. Last winter the thermometer registered 1° below zero, yet the Francoa was as happy as ever last summer. I do not consider the plant as being remarkably beautiful, yet it has undoubted attractions. I find it is a fairly reliable barometer in the matrimonial world, as maidens thus inclined linger long round it, as butterflies round the Buddleias, and on more than one occasion I have later on had requests for the blooms, but, alas! invariably too late. I frequently see the plant in greenhouses if by chance I am forced through civility to go into these places. I am afraid greenhouses are my pet aversion; they are a perfect nightmare. More gardens are made hideous from greenhouses than from any other cause. In truth, a garden with a greenhouse in it is past praying for, as this is invariably perked up in the most prominent position. I would rather weave a garden round a dungstead than try to do [illegible] round a greenhouse.

North Brita[illegible]

IRISES IN PANS

Varieties that give the Earliest Flowers Available in the Unheated Greenhouse

IRIS CANTAB.

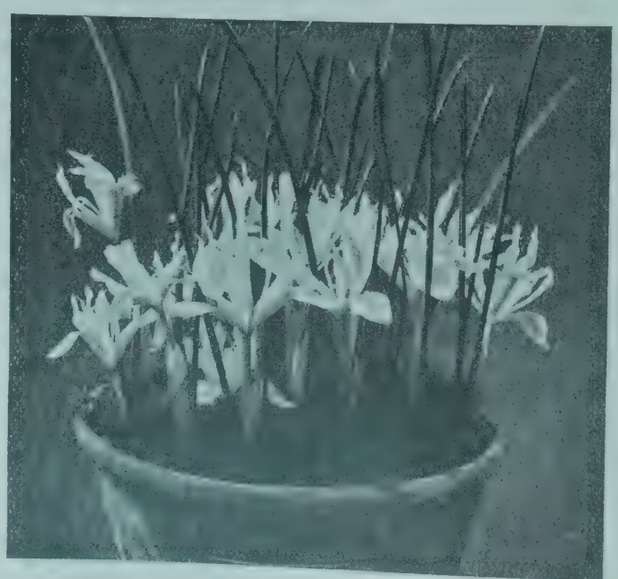
IRIS STYLOSA.

These early flowering Irises are prized alike in garden, greenhouse or sitting-room.

NO early flowers of the year exceed the bulbous Irises in colour beauty or charm—none are more welcome, because of their utility and simple cultural needs. They are precious, too, because of the season of their appearing; and choice withal, attracting by exquisite colour combinations and, occasionally, by fragrance; and merit the admiration they not infrequently receive. To the plant-lover desirous of securing the earliest hardy flowers available and having nothing more than a cold greenhouse to assist him in his aims, these early Irises are ideal, since in such a structure they receive not only the precise measure of protection leading to perfect development, but also provide for the cultivator a maximum amount of enjoyment for the longest possible period. Here, too, the gardener may enjoy them to the full and in comfort, locating points of beauty or interest, brought into prominence because of a closer proximity to the vision than is possible in border or rock garden. True, they may be grown to advantage in the latter in snug positions roofed over at the flowering period by a sheet of glass to protect from pelting rain, hail or snow; but because of dwarf stature, and the disfigurement caused by soil splashes, rock garden groups should be protected round about by moss or something akin—anything, indeed, that will play the part and which can be taken away when flowering is past.

To some, at least, the almost autumn-flowering Vartani, for example, which may be expected to flower in either of the last two months of the year, protection is wellnigh essential, since with freshly imported bulbs its flowers may be expected to appear before Christmas. Dainty and dwarf growing and of lavender or pale blue colouring, it is, however, an exception, the season for these early sorts usually opening in February. By forwarding in frames, or perhaps slight warmth, the nurseryman gets them somewhat earlier, as witness the good exhibit of I. reticulata and others brought to the Royal Horticultural Society's meeting on January 11 by Messrs. Whitelegg and Co., Chislehurst.

Than the "Netted Iris" no early-flowering sort enjoys so large a measure of popularity. Fuller of stature than most—attaining at flowering time 6 inches to 8 inches high—it impels admiration by the very richness of its imperial purple, gold-flecked flowers and by a fragrance approximating to that of Violets. It is deservedly the most popular of its race—quite an indispensable—prized alike in garden, greenhouse or sitting-room, and adapted to a large sphere of usefulness. It is only surpassed by that known as major, a variety having broader fall blades which rarely reflex. Whether this true form is still in cultivation I am not sure. That known as Krelagei, virtually the type, is of dwarfer habit and of broader parts. It is of a reddish purple colour, lacking the flower richness of the first, without fragrance and, by comparison, generally less ornamental.



A BEAUTIFUL IRIS OF THE ...

I. r. Histrid is earlier in flower than either of the above. Smaller and dwarfer, it is dainty, of bright blue or lilac tone and has freckled or blotched flowers. I. r. histrioides is of bolder, broader parts generally, the flowers appearing well in advance of the leaves. The prevailing colour is bright blue, the flowers being freely blotched.

Apart from these is a rather numerous company of hybrid seedling varieties, all beautiful in their way and, when sufficiently plentiful, will doubtless be much grown. Quite among the more distinct is that known as Cantab, which originated, I believe, in Mr. Bowles' garden at Waltham Cross. Little more than 3 inches high at flowering time and of almost sky blue tone, it is most welcome. The exquisite I. Bakeriana from Armenia is one of the most beautiful of them all, its fragrant flowers appearing in February and March. The standards are sky blue; falls white, copiously blotched with deep blue, their marginal parts being of rich deep violet

dowered from the colour standpoint or more compactly modelled than this. Generally speaking, an amiably disposed kind and a good doer, it has not been much in evidence during recent years, though with more settled conditions fresh importations will doubtless be forthcoming. A like remark applies to I. Heldreichii and I. Tauri, sturdy fellows, both of the I. persica set, delightful either in pots or pans in the cool greenhouse, or in the sunniest of spots in the rock garden.

The yellow-flowered I. Danfordiæ, from Asia Minor, the Cicilian Taurus, etc., is quite one of the most charming of these early-flowering sorts and welcome to boot. A species of lowly stature, rarely more than 3 inches or 4 inches high and compactly modelled, the yellow ground colour is freely spotted with green. Though very dwarf habited, it is among the hardiest of them all and one of the most attractive. It is also fairly reliable and a good seeder, a rather important matter, since an even brighter-coloured form than the original might presently result. And in any case seedling raising of these Irises is most interesting work, since all are welcome in the early days of the year if not exactly agreeing to type. The variable and gaily marked I. Rosenbachiana is a case in point: hardly two seedlings alike coloured, and yet probably fuller of interest because of it. Reddish and blue purple shades, white and light violet, or others streaked with lilac and having rich crimson or maroon coloured blades to the falls are among the colours that appear and, being easily raised and flowering in a couple or so of years, render this phase of their cultivation well worth while. The whole of the Irises named succeed in light sandy loam with perfect drainage.

E. H. JENKINS.

Preserving Poinsettia Bloom.—Often when the blooms of this valuable decorative plant are cut they are found to quickly fade. They may be preserved for some time if, immediately after they are cut, about an inch of the stem is immersed in boiling water for about two minutes. This does not prevent absorption of the water by the stems, and the leaves as well as the bracts remain fresh. Burning the ends with a hot iron is sometimes adopted, but while this prevents the bleeding it also checks absorption of water, consequently, while the bracts remain fresh, the leaves droop

Revival of an Old-Time Flower

New Sweet Williams and How to Grow Them

THESE have not now the vogue they so long enjoyed, their rather formal character and lack of grace having much to do with their lessened popularity. Yet they have undoubted beauties, and their employment in their proper place in the gardens of the time will show that they have some claim to be remembered by us when we are ordering the seeds or plants for our gardens.

They are very old flowers indeed, seeing that they were common in the time of Gerard; and it is assumed from one of their popular names at that time being "London Tuftes," as well as Sweet William, that they had then been in cultivation for many years.

In later times, during the rage for formal flowers, such as were the pets of the "florist," the Sweet William was much sought after and was exhibited at shows, the naturally symmetrical form of the flower being emphasised by careful selection of seedlings and their propagation. It is still common in country shows to see prizes offered for trusses of the Sweet William, though its cultivation is much reduced nowadays.

In former times the taste of the florist lay largely in what are called the "Auricula-eyed varieties," which had a white eye and white centre with a crimson ring. Smooth edges were also a *sine qua non*, and the finest forms were maintained by layers and cuttings, as seedlings did not come true to their parents. These methods of propagating the Sweet William by layers and cuttings have largely fallen into desuetude with the reduction in the favour shown to the flower, and they are seldom followed except with a few special varieties, such as the old double dark Sweet William, which passes under several names and which is a very beautiful, dark crimson dwarf flower of great beauty in the border. Sweet Williams are, however, excellent things for filling beds for early bloom in summer, and also for planting in formal lines in association with other plants. Here they produce a very fine effect, and the writer once had a display which earned much admiration by planting lines of Sweet Williams, with Canterbury Bells at the rear. Sweet Williams are frequently sown too late, so that the plants are small and meagre-looking when planted out. With early sowing and good treatment they will afford a much finer display. Some of the older cultivators of the Sweet William sowed the seeds in April, but May will do quite well, although the earlier in the month the better. When the sowing is delayed until June large plants are not secured. The seeds ought to be sown very thinly in the open and in shallow drills in a reserve plot, using light and rather sandy soil with some good old manure incorporated.

When the seedlings can be handled they should be thinned or pricked out. I prefer pricking-out, and place the seedlings about 1½ inches apart. After they have become established, which will be in a week or so, the tops may be pinched to make them more bushy. This will be found a great improvement, unless very large individual trusses are required. About June the plants are moved to a well manured and deeply dug reserve bed, where they are set about 9 inches apart. The soil is made firm about them, and they remain there until about the end of September, when they should be in their flowering quarters, although some leave them in these reserve beds until after the spring bedding plants have been removed. Autumnal-moved plants, however, give the finest trusses.

The flowering quarters should be in a sunny position; and they like a rich, but sandy soil. Plenty of old manure in this, with waterings during the growing season in dry weather, will give results but seldom obtained with Sweet Williams as grown in the ordinary way. The finest plants may be increased by layering some of the side shoots, or by striking them under bell glasses or handlights, like the cuttings or pipings of Pinks.

We have now a great variety of strains of the Sweet William. Some of the newer forms are lovely things and bid fair to reinstate the Sweet William in at least a portion of its early popularity. Some of these come wonderfully true from seeds. Among these new ones are Pink Beauty, ranging from rich salmon red to a soft pink; Rose Queen with double rose flowers; Scarlet Beauty, with bright scarlet blooms; and nigricans, with [illegible] purple leaves and [illegible]

IRIS SINDJARENSIS. FLOWERS LAVENDER AND PURPLE.

IRIS VARTANI ONE OF THE EARLIEST TO OPEN.

Double strains, giving a very large proportion of double flowers of a most varied range of colours; Auricula-flowered varieties, many of great beauty; and large-flowered forms can also be had from seeds at a cheap rate.

In addition to the above, which are biennials, there is what is called the annual variety, which, if sown early, will bloom the same year. This is called Dianthus barbatus annuus. Seed ought to be sown under glass early and treated like an half-hardy annual.

These old-fashioned flowers, stiff though they are, deserve a better fate than the neglect which they receive from so many gardeners.

HARDY PLANTSMAN.

IN the keen interest which continues to be shown in the revival of old English garden flowers, no plant has come in for a larger share of attention than the Sweet William. It used to be thought much of by florists fifty years and more ago. It was certainly, in our youth, beloved of country people, who grew plants in groups under their windows that they might have the fragrance of

"Sweet William with his homely cottage smell and Stocks in fragrant blow."

And a deal of this interest is not to be traced to the superlative sorts of the early days; on the contrary, we must look in other directions for the impetus given to its culture. Often the advent of a new strain of some old plant has immediately caused attention to be focussed on it by those who knew but little of it from personal experience. The Sweet William is an example. I venture to say that the introduction of Sutton's Pink Beauty did more, perhaps, than anything else to enhance the value of an old time biennial. It is a colour so delightful—a salmon pink—as to compel admiration, and its intensity is only excelled by Sutton's Scarlet, which must be grown in one's own garden, to see it in varying light, to fully appreciate it.

W. LINDERS LEA.

Geum Mrs. Bradshaw

AT the time of writing (mid-January) I have a nice batch of Geum Mrs. Bradshaw in full bloom, and it is a glorious sight. I think at this season of the year the colour is much more appreciated than during the summer, for it is a colour that is very scarce during the dull days of winter. The seed must be sown during March in a gentle heat, and when the seedlings are large enough, pricked into boxes and grown on in a slightly heated pit or greenhouse until the end of May, when they may be hardened off previous to being planted out in the garden, where they can grow during the summer, giving them the same treatment as that given to Violets. During September they should be lifted and potted into 6-inch or 7-inch pots. I find this size of pot large enough, and when they get full of roots weak soot-water may be given twice a week. It is wonderful the amount of water these plants need during the dull days. A suitable place for them is in the Carnation-house or a cool greenhouse, where they will throw up a wealth of bloom, the scarlet spikes being very much appreciated for table decoration when other flowers are so scarce.

G. S. LONDON.

STRAY JOTTINGS ON SWEET PEAS

Sowing and Growing, and the Selection of a very Swell Dozen

BY THE REV. JOSEPH JACOB.

Looking Back.—"A short life and a merry one" would appear to be the motto of the modern Sweet Pea. It may be said to have started on its victorious career about the year of the first Jubilee of Queen Victoria. At that time old Henry Eckford was getting into his stride preparatory to his drawing out from his fellow competitors and having things all his own way for a good many years, until, in fact, the Sweet Pea world was startled in 1901 by the appearance

SWEET PEA ROYAL PURPLE.
A strong bold variety of striking colour.

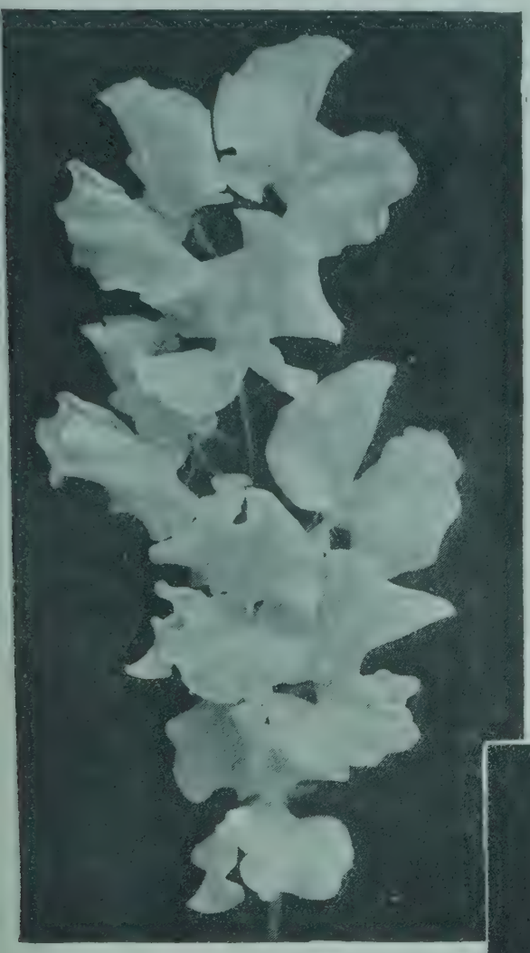
of a strange and hitherto unheard of and undreamed of variety with waved standards, exhibited by Silas Cole, the head-gardener at Althorp Park, near Northampton. It was an epoch-making variety, for from that date these waved, or, as they soon began to be called, these Spencer forms, waxed, and the older smooth standards or grandifloras waned, and are now only mentioned in a sort of pitying way in case there may still remain a few old fogies or curious cranks who will stick to them. When all has been said, it is certain that no Pea has ever been in the same boat for sweet scent as Aldersey's French grey Mother-o'-Pearl, nor have I ever yet seen such rich substance and texture in any of the many wonderful novelties of the last fifteen years as we have in the peerless Hamilton and Bolton's Pink are not the miserable Cinderellas which those who cultivate only their more lordly sisters seemingly take them to be, for actions speak louder than words.

I compare in my own mind the coming of the Spencer Peas with that of the Darwins in the Tulip and the ramblers in the Rose world. The event made all the difference to the flower. It forged ahead. A National Sweet Pea Society came into being. Raisers innumerable appeared—here, there and everywhere—to supply what an eager public insistently demanded—new colours; larger and still larger flowers and more of them on a stem; and a bloom with but little more than a suspicion of the fashioned flower about it. Hence it comes about that in 1921 the choice is a very wide one. An up-to-date list contains anything between fifty and a hundred names, which presumably stand for distinct varieties, but in some cases the difference comes perilously near that of Tweedledum and Tweedledee, or six to one and half a dozen to the other.

What to Buy.—Yet if we are to have Sweet Peas at all we must buy something—yes, but which? Not long since Mr. Norman Lambert gave a very good list. He included in the sea from which he pulled out his twelve or thirteen fish all the latest varieties out, and anyone who wishes to grow a very swell dozen would do well to follow it (see page 6). I am going to pull the veil aside and state what I have bought myself. New ones: Hawlmark Pink, Gladys (if this is not to my liking let Mr. Lambert prepare pistols for two and coffee for one !), Picture and Majestic Cream. Older varieties: Dora, Mrs. Tom Jones, Royal Purple and Nora Unwin (to me from a cutting point of view, the best by far of the whites, if not the best of all Peas for the purpose because of its delightful perfume. When July and August come round methinks sometimes I would like to be a housemaid to get the first whiff of Nora when the room is opened in a morning). What I must buy if I can: Commander Godsal (the best of the so-called dark blues) and Valentine. May I say, before I leave the selection of varieties, that the National Sweet Pea Society issues a "Classification of Sweet Peas" with the best in each colour class marked, and here and there one picked out as being of special value for growing under glass. How many of these classes are there? Thirty-eight! It takes one's breath away, but it shows the development of the Sweet Pea. Are you a member?

Sowing and Growing.—As I have plenty of accommodation in cold frames and plenty of 3-inch pots and, furthermore, because I never grow more than a couple of rows, each about 18 yards long, I invariably sow in small pots and plant out towards the end of April or in early May when the weather conditions are favourable. The soil in the rows will have already been prepared by trenching to the depth of 18 inches or 2 feet and putting some good farmyard manure at the bottom. If my soil was light I would, perhaps, go still deeper and put more good toothsome manure in

s no good overdoing the depth—in fact, last year, owing to pressure of work the line was just double dug and a quite small amount of farmyard manure put in the bottom. The result was very satis-



SWEET PEA HAWLMARK LAVENDER.
A great favourite.

factory from a house and garden standpoint. Exhibiting is another matter and exhibitors can take care of themselves.

Of late years chipping the seeds of certain varieties has been advocated. Personally, from all I hear it is a practice that has been overdone. We never chip, but if there is any reason to suspect an extra hard skin, we soak the seeds for twenty-four hours before sowing. If "rices" are scarce, and it seems more difficult every season to get nice twiggy sticks, I can recommend Simplicitas netting. It does its work well and lasts for some years.

As Cut Flowers.—We are apt to forget that Sweet Pea plants lend themselves for cutting in two ways. First, they give, or we try to make them give, us three, four or five blooms on good long stems which we cut and put in vases, if possible with some of their own foliage, and, secondly, there are those little side branches with the blooms on short stems and which must be cut—blooms, stems, foliage and all. These give extremely pleasing results in low wide-mouthed vases, and are in every way as decorative in themselves as the taller and narrower receptacles filled with the orthodox blooms on their stiff stems.

Next to the Sweet Pea's own foliage I would suggest grass as their accompaniment in vases. All who live in the country can get what they require from the hedgerows. Those who are not so fortunately placed might buy a packet or two of suitable annual grasses. The following might be tried: (1) Agrostis nebulosa, (2) Eragrostis elegans, and (3) Tricholæna rosea.

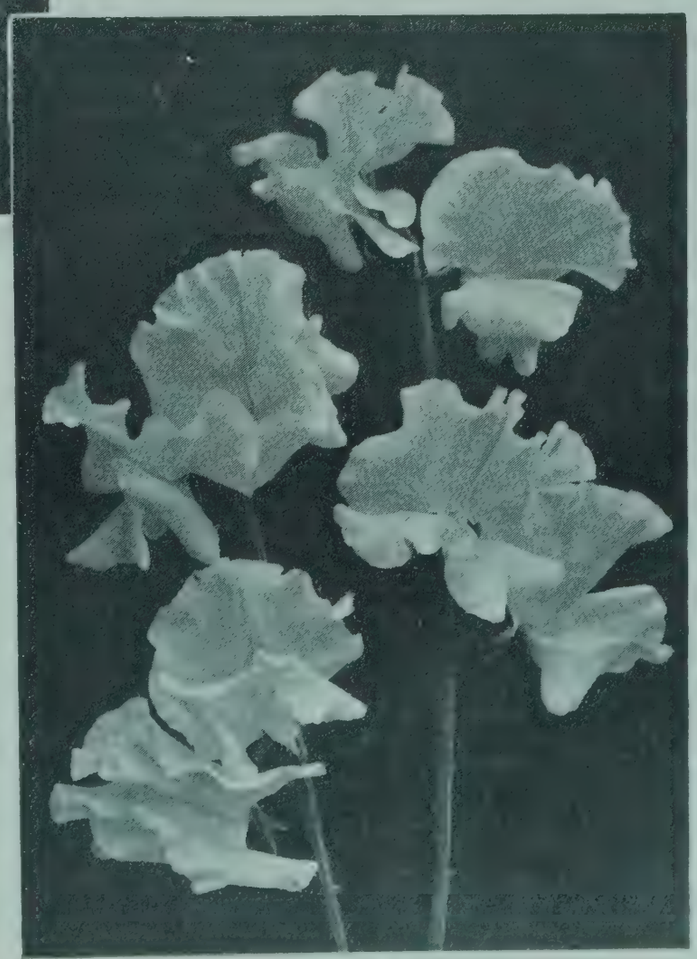
"I Give a Miss."—In my Sweet Pea order it will be noticed that reds, oranges, salmons, maroons and stripes do not appear. This is partly because I do not shade, and without it salmon and orange toned varieties so soon burn and go unsightly; and partly because reds and crimsons do not very much appeal to me in Sweet Peas. We all of us have our own fancies. Because I have not included Sunproof Crimson, Alexander Malcolm, John Ingman, Hawlmark Scarlet or any other similarly coloured varieties it must not be thought that they are in my opinion no good it only means that, personally, I do not care about them. As to shading, Tangerine nearly makes me try it.

An Old Reference.—Can Mr. S. B. Dicks out of his great store of Sweet Pea history tell us if it was the custom about 1775 to grow Sweet Peas against walls or fences and not as we usually grow them in rows or in clumps? I ask because I casually came across a reference in Ellis's "Gardener's Pocket Calendar" (1776) that suggests that it was so. By the way, how long those three varieties, the purple flowered, the white flowered and the Painted Lady were the only varieties grown!

"JANUARY" SWEET PEAS

BY "SOMERS."

JUNE Sweet Peas are fine, but January Sweet Peas are finer, which shows the pull that fancy has over fact. I was hoping to have a rest from Sweet Peas this present year—had decided, in short, to give them the go-by for a season and to hold, as it were, a Sweet Pea truce, levying contributions from the gardens of my neighbours if need of the flower became imperative. And so I let October go by, what we call the Lower Creation to certain things at certain times. Anyhow, not to trouble about the psychology of the matter, I have been much occupied this month with the Sweet Pea, in hopes of retrieving my lost October, and that is what has led me to the discovery that January Sweet Peas are, on the whole, so satisfactory compared with those of summer and autumn; though I have no wish to belittle those undeniably lovely summer blossoms—quite the contrary.



SWEET PEA PICTURE.
"Flesh pink with rosy flush, suffused and shaded creamy apricot."

Still, there is no use denying that summer Sweet Peas have their faults. Who is there can lay his hand on his conscience and say that his summer flowers have not suffered from rogues, from streak, from shortness of stalk, from the inevitable reversion of "fours" to "threes" and thence to "twos," from too forward and obtrusive seed-pods, from deficiency or over-intensity of colour, from a dozen plaguy vices inherent in the original constitution of the Sweet Pea? I do not insist as strongly as I might on the miseries that for months precede and attend the grand Sweet Pea efflorescence of July and August—the meticulous preparation of soil, the search for non-existent pots and boxes, the sowing of the seeds, pea by pea, the uncertain germination, the mice, the slugs, the aphis, the twigging of the seedlings (most irksome of tasks), the digging, manuring, staking, training, the gathering of the multitudinous blossoms day by day and almost hour by hour, the selecting at break of day of blooms for exhibition, the staging on a ridiculously inadequate allotment of space, the oven heat of the exhibition pavilion and, finally, the injustice of not receiving the gold medals which are so palpably one's due. If July Sweet Peas are lovely—and I do not say they are not—who will have the hardihood to say that we do not pay the price? Assuredly we do, partly in heartache, partly in backache. And that is what leads me to say that the dream Sweet Peas of January have their points as against the disappointing actualities of July and August. What lovely colours they have, these January Sweet Peas—colours which I should despair even of imitating were it not for the help of specially coloured wools and silks. Rose and [illegible] mauve, purple, lavender, crimson and [illegible] coral, salmon buff and pale [illegible] and [illegible] blue—these and all

the month in which I had invariably sown my Sweet Peas when I did sow. But it was of no use. Hardly had I got well into December when the lure of the Pea began to work its witchery—a blind Sweet Pea impulse apparently, much, I suppose, like the unreasoning instinct that moves the cuckoo, the swallow and other members of

combinations of these—flushings, edgings, streakings, overspreadings, splashings, marblings, blendings, suffusings of each colour with one or several of the others. If I may speak out of my own experience, my most signal January triumph has been a Sweet Pea which I have not actually seen "in the flesh," that is, not in its material summer form, but only in the apocalypse of the glowing coals—I mean "Picture." My vocabulary, though sufficient for ordinary homely purposes, is quite inadequate to dealing with the splendour of Picture, and, therefore, to save further pains, I cite the raiser's description: "flesh pink with a rosy flush, the whole being fascinatingly suffused and shaded creamy apricot." Another January Pea which I much admire has "the standard rich purple, and the wings electric blue, with a clearly defined edging of a paler shade"; while yet another is "best described as a cerise-toned orange-scarlet." So much for colour; but January flowers have the advantage also in luxuriance of growth, trimness of habit, and facility of training. For do but note how healthy and robust the straw and foliage, and how admirably they dispose themselves round stakes which, to the best of my belief, are still growing in the hedgerows. Mark also how they display their trusses to the best advantage, an example which I can never persuade my summer flowers to follow. Other notable peculiarities of the January Pea are the universally long stalks and the number of blossoms to a spray, which is invariably four; though I am not sure that *three*, the number of the Graces, is not the ideal for the Sweet Pea. Anyhow, a foursome spray is enough for me, and my January Peas, therefore, on principle, never exceed this number.

But was there ever ointment yet without its fly? I can sit before the fire and in the glowing embers, grow Sweet Peas to a marvel. But I cannot give them away; I cannot share them with Church, school, hospital or friend. This is a drawback and a pity. Also I greatly fear that the perfume of the dream Sweet Pea is less powerful than that of the material summer flower. But what of that? You cannot have everything. Besides, as the Latin proverb says: "De odoribus non est disputandum"; and, to be quite frank, though somewhat of a Sybarite in perfumes, I am not excessively partial to the odour of the Sweet Pea. It is sweet, of course, but it has in it, I always think, a suggestion of decay, as of flowers that are past their best. At any rate, I do not miss it much in my January flowers, for the air at present is filled with the perfume of the Fragrant Winter Blossom (Chimonanthus fragrans), not a bad substitute for the fragrance of the Sweet Pea.

While I was occupied with my winter Sweet Peas, to the exclusion of less important matters, there came, as a welcome help and stimulus, Mr. Norman Lambert's admirable article in THE GARDEN of January 1, his "Selection of Sweet Peas for 1921." Some of the Peas on his list I am not acquainted with, but I intend to grow them all, if possible, this year. As regards those of his dozen which I do happen to know, I mostly agree with what Mr. Lambert says. I know no white equal to Constance Hinton, which has never "pinked" with me as far as I remember; and Warrior, is, I think, the best bronze, though I observe there are several new bronzes in the field. As for Royal Purple, strong and bold as it is, I would not place it in the first fifty, much less in the first half dozen. The colour is too flagrant. Amateurs will find it interesting and instructive to compare Mr. Lambert's article of this year with his selection article in THE GARDEN of February 21, 1920. His additions, eliminations and substitutions are all suggestive.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Summer Bedding Arrangements.—The best time to plan schemes, whether of colour, foliage or both, is during the summer months, when the colour and distinctive habit of each plant may be accurately noted. However, this is not always possible and must oft times be arranged without the aid of the above. Annuals rightly enter largely into the majority of colour schemes, but it is a mistake to allow new varieties to form part of such schemes; the reserve border is the place for trial plants so that colour and habit may be correctly judged. Among annuals of note, useful in herbaceous borders or beds by themselves, are Asters, Clarkias, Godetias, Larkspurs and Stocks, and although not strictly an annual, the Antirrhinum is probably unequalled for brilliant massed effects. It is, I think, generally admitted that a few well defined colours give a much more pleasing effect than a medley of tones.

The Shrubbery and Climbers.—The forking over of the former and burying the half-decayed leaves will add to the appearance and greatly benefit the plants. Attend to climbers by removing weak and useless wood and covering bare spaces with good wood. In favoured localities so many beautiful plants can be grown on walls; among other plants which were quite a feature on the walls at Penrhyn Castle was Lapageria rosea, and while serving there as a junior under Mr. Speed I remember flowers opening at Christmas time.

Seed Sowing.—This requires constant attention. Antirrhinums, fibrous Begonias and foliage plants raised thus must be sown early to get a full season's enjoyment from them.

The Kitchen Garden.

Leeks.—For early work and for exhibition, sow seed as advised for Onions in earlier issue (page 35).

Sunroots.—This plant, the Jerusalem Artichoke, has great food value and is well worth growing. Planting may be done now when the ground is workable. Choose medium sets and plant in rows 3 feet apart with 1 foot between the sets.

Shallots require to be planted in good time and the sooner this operation is done the better. Place the rows 15 inches apart and sets about 10 inches from each other. It is an advantage in very light soils to plant in shallow drills.

Seeds.—A small sowing may be made of Brussels Sprouts for early work; this vegetable belongs to the nitrogenous or flesh-forming class of foods and is very sustaining, so should form one of our chief winter vegetables. A pinch of a quickly maturing Cabbage should be sown to help up kitchen supplies.

The Hardy Fruit Garden.

Raspberries.—The newly-planted canes may be cut down to within 6 inches or 8 inches of the ground, also the canes of established plantations of autumn fruiters. Points of canes of summer varieties may now be tipped.

Plants Under Glass.

Winter Begonias.—The earlier flowering plants having been slightly cut back and allowed a little rest, will now yield a good supply of cuttings if placed in warmth and sprayed occasionally with tepid water.

Cinerarias.—The latest batch of these which have been kept back in cold quarters should now receive their final potting. A suitable compost is two-thirds fibrous loam and one-third leaf-soil, with a little sand added.

Fruits Under Glass.

Muscat Vinery.—For general purposes early February is a suitable time to start these vines, and although a high temperature is not necessary at the commencement, Muscats certainly respond to a warmer one than most Grapes. A beginning temperature of from 52° to 56° at night and rising to 60° by the time the buds burst, will suit quite well, and then gradually rise to 68° to 70° by flowering period. An addition 10° to 15° can always be allowed for daytime according to weather.

Fruit Room.—Give a weekly look over if possible and remove those fruits showing signs of decay, and if culinary fruits they may be drawn upon for immediate kitchen requirements.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—A sowing may now be made on a warm border for early use, Beck's Dwarf Green Gem being an excellent variety for this work.

Forcing French Beans.—Better results are attained now by a sowing of these than at an earlier date, longer daylight and an inclination towards natural growth being more apparent. For this early work the most convenient method is to sow in 8-inch or 9-inch pots in a mixture of turfy loam and leaf mould. Place along the ledge of the Melon pit or other warm house; see that the atmosphere is not too dry, as the plants are liable to attacks of thrip and red spider. Osborn's Early Dwarf and Everbearing are useful varieties for forcing.

Seakale.—Continue to put in fortnightly batches of this useful subject, as fresh vegetables will now be getting scarce.

Early Sowings of Cabbages.—To make good any blanks in the autumn planted lot or to act as a succession, seed of an early sort may be sown in boxes for pricking into frames. We find Flower of Spring and Harbinger suitable sorts.

Radishes.—These should also be sown freely in frames now; those who favour the long kinds should try Sutton's Earliest Frame or Long White, while among the turnip-shaped, Earliest of All and White Forcing prove most reliable.

Mint.—It is advisable at this time to lift roots of this herb and plant them in boxes for gentle forcing. Place them on the floor of an early vinery and the young growths will soon be ready for use.

Fruits Under Glass.

Melons.—In establishments where there are well heated structures, an effort should be made to have a crop of Melons as early in the season as possible, and some growers will have risked a sowing before now, but everyone is not so happily placed in regard to suitable houses so must delay until they have the additional advantage of sun heat. Examine the soil carefully and get rid of such pests as wireworms and eelworms before the plants are transferred to their fruiting quarters. The first crop is generally grown in large pots; these, when filled with good fibrous loam and a sprinkling of bone meal and lime rubble, should be stood for a few days in the house where the plants are to grow so that the chill may be taken off the soil before the young plants are finally moved into them.

Plants Under Glass.

Fuchsias and Geraniums for Bedding.—Boxes of these wintering on shelves will now be pushing out fresh growths, so should be potted off singly into suitable sized pots. After root action takes place again they ought to be judiciously pinched so that bushy plants may be formed.

Clarkias.—We have been in the habit of sowing a pinch of seed at this time so that plants may be raised for flowering in pots during late spring and have had gratifying results therefrom, occasionally having much finer plants than the autumn sown lot.

The Flower Garden.

Roses.—Pillar and Climbing Roses should now be pruned and the strongest growths tied in. Owing to our variable climate it is well to leave the more delicate sorts until the middle of March, when all danger from very severe frosts will be past. Should further planting be thought of, it ought to be done during open weather before the end of March.

Other Climbers and Wall Plants, such as Buddleias, Solanum crispum, Polygonum baldschuanicum and Ceanothus, should now be pruned and tied where necessary. It is inadvisable in many cases to tie in a formal manner. Make the leading stems firm, but always aim at having lightness and a natural appearance of growth.

Premature Flowering of Shrubs and Trees.—Owing to the abnormally mild weather in our northern district, it is most noticeable the numbers of shrubs and trees which are throwing out flowers and catkins, in many cases months before their usual period of flowering. While we welcome them we also pity them, knowing the damage that will take place after a period of frost.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)

THE GARDEN

No. 2568.—Vol. LXXXV.] [February 5, 1921.

NOTES OF THE WEEK

MANY of the Cotoneasters described by Mr. Edwin Beckett in this issue are of the greatest value and importance in the planning and planting of new gardens. The genus has been enriched during recent years by such well known plant collectors as E. H. Wilson, Forrest, Kingdon Ward, and the late Reginald Farrer. Some species, like the well known C. frigida, grow into specimen trees and add lustre to the landscape by virtue of their beautiful clusters of fruits in autumn and winter; other species, such as C. horizontalis and Dammeri, are low growing and seen at their best when overhanging rock or low stone walls. Cotoneaster pannosa, figured on page 65, is still confused with C. Franchetii in some gardens. They resemble each other in elegance of habit, but C. pannosa has duller leaves and fruits of deeper red.

A Pink for the Wall Top.—Dianthus plumarius has been referred to as the "father of all the Pinks." Here in the accompanying illustration it is seen clothing a rocky boulder. It loves to grow over a stone wall or in high places in a rock garden, and from such a position its masses of flowers fall over and are seen to the best advantage.

DIANTHUS PLUMARIUS PERCHED ON A ROCKY BOULDER.

The Soil for Apples.—This is not so important as many think; indeed, a stony ground is often the most productive, because such a soil produces short fruit-spurs instead of long woody growth. This can be seen in some of the big market growers' grounds in different parts of the country where the poor soils produce fruit-buds, and when the trees fruit heavily each year these market growers top-dress or mulch with manure each season to keep the tree healthy and vigorous. In black, peaty soils which generally lack lime the trees should be top-dressed with lime.

Aconitum chinense.—The nomenclature of monkshoods is confusing. The beautiful plant illustrated on the front cover of this issue is grown in gardens under at least four names—Aconitum autumnale, A. chinense, A. Fortunei and A. soil. A. chinense is figured in the Botanical Magazine, tab. 3852.

Buddleia officinalis.—The very severe and almost unprecedented frost that fell on the Riviera on the night of December 16 has brought this shrub into unwonted prominence. Alone among winter-flowering shrubs, this Buddleia is flowering unharmed among the wreck of all the shrubs that we count upon to adorn our gardens in the winter months. There are several varieties of this evergreen, holly-leaved shrub, and the first that I possessed had such small and dull-coloured flowers that I hardly thought it worth growing. Seeing, however, bold trusses of clear lilac flowers with a yellow eye, and strongly scented, I begged cuttings, and so now can honestly say that Buddleia officinalis is worth a place in any garden where winter-flowering shrubs are grown for winter effect. Being so hardy, it would be well worth a trial in the South of England.—E. H. W.

Mr. Jordan.—We are all very sorry to learn that Mr. Jordan, who has been hall-keeper to the Royal Horticultural Society ever since the hall was built, has entirely broken down in health and the doctors say will never be able to work again. Some of the exhibitors at the Hall have suggested that they would like to join in getting up a purse of money to be presented to him, and a fund is now being raised. Contributions should be made payable to Mr. W. R. Dykes and addressed to Mr. W. E. Bisset, Royal Horticultural Society, Vincent Square, Westminster, S.W.1.

The National Dahlia Society.—The annual general meeting of this Society was held at the Royal Horticultural Society's headquarters, Westminster, on Tuesday, January 25, to receive the committee's report and balance sheet for the past year and to elect officers for the ensuing year. Mr. Reginald Long was elected president; Mr. Joseph Cheal, V.M.H., chairman of committee; Mr. J. Green, treasurer; and Mr. G. Hillier, sub-editor of The Garden, secretary. All communications should be addressed to the secretary, Mr. G. Hillier, The Garden, 20, Tavistock Street, Covent Garden, London, W.C.2.

FORTHCOMING EVENTS.

February 7 National Chrysanthemum Society's Annual Meeting. Nottingham and Notts Chrysanthemum Society's Meeting.

February 8 Royal Horticultural Society's Fortnightly Meeting and Annual General Meeting. Annual General Meeting of the Horticultural Club at the Trocadero Restaurant, Piccadilly Circus, W. Exhibition of Daffodils will be held at the Royal Horticultural Society's Offices, Vincent Square, Westminster, S.W.1.

CORRESPONDENCE

BOTANY FROM A CHAR-A-BANCS.

IT gives me pleasure and almost a sense of relief to know that my "impressionist" remarks on Cornwall and its flora have not on the whole offended the sensibilities of a "true Cornishman" like Mr. G. Matthews, who criticises my statements (THE GARDEN, January 22). The fact that I did not come across certain plants in a certain area does not, of course, mean that they do not exist in that area, and I thought I had taken care not to imply that it meant this. I did not, it is true, find Primroses and Sweet Violets in places where I should have expected to find them. It was, of course, the flowerless season for these plants, though I think I should have seen them had they been where I was. No doubt, as Mr. Matthews says, they may be seen by the thousand if one chances on the right place, which I had not the luck to do. I must point out to Mr. Matthews that I did not claim to have made "extensive plant-hunts on foot," but, as the context makes clear, "*fairly* extensive" for the time at my disposal. I spent just a fortnight in the Duchy, making Penzance my base. Mr. Matthews has spent fiv hundred fortnights in Penzance, and no doubt knows five hundred times better than I do where Primroses and Sweet Violets are found in plenty. Still, *for the fortnight* I took "fairly extensive" walks in the neighbourhood—eastward in the direction of Marazion (not to Gulval), to the north and west of the town in the Madron quarter, in the St. Just direction as far as Newbridge, to Newlyn and Mousehole, and thence over the hill to Lamorna and so on. I saw no Wild Roses of any species in my walks. I am sorry. Better luck next time!—SOMERS.

WANTED: SWEETER SWEET PEAS.

READERS have every reason to be grateful to the Rev. Joseph Jacob, "Somers," and others (THE GARDEN, January 29), who have written on the subject of Sweet Peas; but I am one of the class to whom the former refers as "old fogies or curious cranks." I have not the very slightest objection to be so stigmatised. There was once, in a parable, a man referred to as "this publican." I do not care so much for the outward and visible show of my Sweet Peas as for their inward and spiritual scent. I order my seedsman to supply me with Sweet Peas, and I forbid him to include one of the flaunting modern Spencer type. But what I get are not in my opinion half as beautiful as those I used to grow thirty or forty years ago and certainly nothing like half so sweet. Now can any of your great experts advise me what sorts to order with a view of getting some really well-scented varieties next summer? If I cannot get something much better and sweeter than those I have had for the ast two or three years I think that I shall cease to find room for so unsatisfactory a flower. I throw myself upon the mercy of your Sweet Pea scientists, and if they will only advise me well they may call me any names they like.—JOHN EDWARDS-MOSS, *Thamesfield, Henley-on-Thames.*

REFLEXING IN DAFFODILS.

I HAVE read with much pleasure the letter from the facile pen of "Somers," which appeared in your issue of January 15, and as it happens to be upon a subject in which I have always been deeply interested, I venture to offer him, for what it is worth, my congratulations on the strong but gentle way in which he takes inclined to go back." I am sorry to say I have not seen the twelve Daffodil portraits published in the report of the Midland Daffodil Society, but I have seen many flowers in the flesh of Crimson Braid, and I have had the pleasure of seeing them under different cultural conditions and cannot call to mind a single flower which has appeared to me to be unduly inclined to "go back." Might I draw attention to the fact that some of the most beautiful types of the Daffodil family owe their charm entirely to their exquisite reflex; indeed, they would be nothing without it. The variety in question is undoubtedly very distantly descended from Poeticus, so if some of the flowers have a tendency to show a profile, it cannot be wondered at, neither can it be wrong. Perhaps the man who photographed Crimson Braid was of a highly artistic turn of mind and wanted a photograph showing a fine profile, and so, to suit his

A HEAVY CROP OF FRUIT ON A STANDARD LANGLEY BULLACE TWO YEARS AFTER PLANTING.

own fancy, he gently pushed those rich, leathery petals back a wee trifle. I remember some years ago putting up a superb collection of Daffodils for a well known raiser and grower of these beautiful flowers, and I shall never forget the fright the exhibitor got when he arrived upon the scene and discovered I had taken the unwarrantable liberty of casting measurements and mathematics to the four winds and arranging them naturally, showing profile in every case that called for it and even the shy but beautiful drooping habit of those that Nature had made that way. The group in question took a "gold," so I was forgiven and my financial reward was augmented, but I never put up another group for him.

LANGLEY BULLACE.

THE accompanying illustration depicts a standard tree, two years planted, which shows the value of this Bullace for early fruiting. I have long advocated its use for supplying fruit in quantity. In point of quality, for jam or bottling, this Bullace has no superior, such excellent flavour it has. For the small garden I advise a standard tree wherever possible, as I know the benefit such a fruit is for this type of cultivator.—E. M.

THE MILD SEASON.

THE weather in January has been so mild that to-day (24th) I saw forty or fifty of the little Hutchinsia petræa in bloom on limestone screes close to Bristol. Several plants were 2 inches high, with five or six heads in flower and with some seed-capsules already formed. But most of the seedlings are as yet mere rosettes of bright green leaves. Last year this rare and tiny Crucifer, with the smallest of flowers, appeared on February 12, which was early enough, for most of the books speak of its flowering from March to May. On January 4 I saw a Hazel in full bloom between Gunnersbury and Kew.—H. S. THOMPSON.

I HEAR from a correspondent in Guernsey that Golden Spur Daffodils were picked there in the open on January 20. Here in Maelor I had the ordinary Dutch yellow Crocus in bloom on January 21 in the narrow border at the foot of a south wall, where the Sternbergias and three bulbs of Nerine Bowdenii are. I had one poor flower-head from these latter last autumn.—JOSEPH JACOB.

APPLES.

THE view of Mr. W. J. Farmer (page 40), apparently shared by others, that "if an apple is not good to eat raw it is not good cooked," surely would not accord with the general consensus of opinion upon the matter! The Fruit and Vegetable Committee of the Royal Horticultural Society on February 16, 1915, tried some eighteen varieties of cooked culinary Apples and was of the opinion that Hanwell Souring and Edward VII, among others, were varieties of superior merit, and that Wellington was the best variety tried. Now neither of these appeal to the general taste as a dessert Apple. Granted that there are Apples, such as Newton Wonder, that are regarded as cooking Apples and yet in their season are by no means to be despised for eating raw, yet this is accidental and one bears no relationship to the other. To my mind there are two distinct standards by which dessert and culinary Apples should be judged and it is quite unnecessary to seek to establish any correlation between them. In fact, I would almost assert that for an Apple to be suitable for both purposes is to proclaim it to be hardly first class for either purpose and never first class for both. It should be the aim of all who can to so arrange the supply of Apples that varieties follow in their proper season. This is not emphasised sufficiently respecting culinary Apples, many being used, quite unnecessarily, out of season.—THOMAS BONES, JUNIOR, *Cheshunt, Herts.*

SUTTON'S GREEN-TOP BEET.

ANOTHER trial of this Beet has convinced those who have eaten it that no better-flavoured kind has ever been sent to the table. It had the rare honour of receiving a first-class certificate from the Royal Horticultural Society in 1917. The foliage is green, not purple, but the roots are admirable in form and good in colour.

THE RYDER POPPIES.

THESE are, I think, rightly described as "the most beautiful Poppies in the world." I have tried many of the Shirley type, but have found none at any price to please me as well as these. They are as "artistic" as the ordinary Shirley, but superior all round and infinitely varied.—CORNUBIAN.

FREESIAS.

RE the Rev. Joseph Jacob's fears about his Freesias, may I say that mine are better this year than usual, though I must confess that they were things in which I practised economy and for five years I purchased no new bulbs. Every year the same old friends and their off-spring have presented me with a wealth of flowers. I do not know if you would care for a list of flowers now out in the garden here. Aconites, Snowdrops, Crocuses, St. Brigid Anemones (in profusion), Iris stylosa, Polyanthus, Cyclamen Coum, Veronica (with the long blue flower spikes), Lonicera fragrantissima and L. Standishii, yellow Jasmine, Pyrus japonica, Wallflower, Erica carnea and E. mediterranea. Of Roses there are blooms of Lady Pirrie, Mme. Mélanie Soupert, Laurent Carle and Général Jacqueminot, and in the wood, stems of Primula japonicas about 6 inches high and blooming gaily.—E. BYNG OF VIMY, *Thorpe Hall, Thorpe-le-Soken, Essex.*

A DISH O' D'ARCY.

"The Apple of Apples," so called, by J. T. Bennett-Poë, V.M.H., November 6, 1920.

"THE APPLE OF APPLES."

We came from a tree of fifty feet high,
Whose branches expand forty-five,
Our blossoms were poems beneath the blue sky,
Set to music by bees from the hive.

—H. C. P.

AUTUMN COLOURING ON A CHALK SOIL.

WITH reference to Mr. Heatley Noble's article in your issue of December 25th, 1920, "Autumn Colouring on a Chalk Soil," and asking for further suggestions, I have the undermentioned Japanese Maples growing in a chalky loam, with manure added. A few have been planted in a lawn, the subsoil of which is entirely chalk, beds having been made about 2 feet deep and filled with soil as above, with good results. The varieties are: Acer palmatum atropurpureum, A. p. roseo-marginatum, A. p. versicolor, A. p. dissectum purpureum, A. japonicum atrosanguineum, A. j. aureum.—H. HANCHET, *Purley.*

EFFECTS OF FROST.

THE sharp spell of frost which visited us about mid-December, during which 22° were registered, had some curious effects. Some shrubby Veronicas of the large-flowered kinds were killed. We also lost a fine specimen of Dendromecon rigidum which was 8 feet high and had survived the severity of the spring of 1917. An old-established clump of Romneya Coulteri looks as though it has surrendered, and many shrubby Salvias, Carpentaria, Dabœcias and even Genistas are in a sorry state. Yet, in positions that were entirely devoid of shelter, Cistuses Gauntletti, purpureus, crispus, albidus and Helianthemum formosum, were scarcely singed. The glossy green foliage of Rosa sinica Anemone is quite unharmed, while that of most of the rambler set is as if browned by fire. Escallonias even E. Philippiana, were untouched, and though Fabiana imbricata weathered the ordeal quite successfully, Erica australis suffered considerably and even E. ciliaris has not escaped. Veronica chathamica has "gone west," but some young plants of the deep maroon Diplacus glutinosus

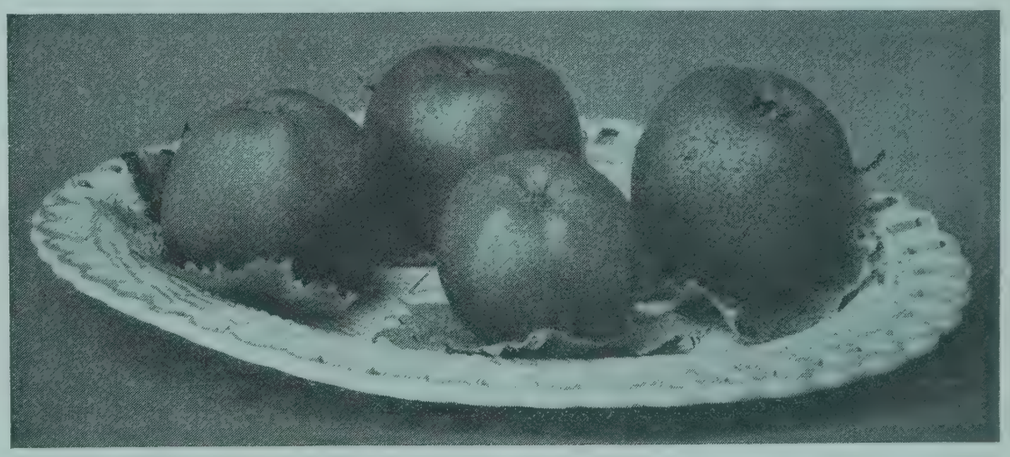
How to Promote Potato Competitions

What Gardening Societies could do to Encourage Better Cultivation and the Use of the Most Suitable Varieties.

THERE is no doubt about it; there will be many tons of Potatoes planted by private persons during this spring. But will the crop obtained compensate for the labour or pay back the cost? That is, indeed, a different matter. Many men have told me during the last few months that their idea of Potato planting is to "just stick in the spuds and leave Nature to do the rest."

This haphazard way of Potato planting will not do in these days of dear living and at a time when every pound of Potatoes produced will be very valuable. A more remunerative manner of producing this crop must be found. Folks will have to feel an interest in their Potato plants such as they have never previously felt. Good culture should be the rule of every man, but how to induce him to do his best by his Potato patch is the problem we have yet to solve.

And it can be solved, and solved easily. No man will refuse to do his best by his Potato patch if it is made worth his while to do his best. And to make it worth his while we shall have to promote Potato planting or growing competitions all over England. "How to do it—that's the trouble." Not at all. There is usually no difficulty, at least I have found none, and I hope the following notes may be useful to any persons who feel inclined to promote these competitions.



A DISH OF D'ARCY SPICE APPLES.

All over the country there are allotment gardeners' societies, and it is for these societies to take the matter up immediately, under the leadership of their own president or some prominent and energetic outside personage. If it is the Lord Mayor, Mayor, Provost, Laird or any man with real power, so much the better. The first thing to do is, if possible, to have a meeting to speak to the members on the subject and to urge as many as possible to enter. If this is not possible, then printed papers should be pasted on to the notice boards on the society's allotments or sent round by post to the members. A closing date should be fixed for entries, and some simple conditions brought up at the meeting or laid down on the circular, to which every competitor must comply.

One of these rules should certainly say if sets are to be planted whole or cut, and if cutting is allowed, into how many pieces a 2oz. or 3oz set may be divided. Another rule should, I think, give two dates, the first to be the date before which no person may plant, and the second the date after which no person may plant Potatoes. These dates will range from early April to the end of May, according to the district. Another rule should say for what the prizes will be awarded: the heaviest crop from a named area of land and from a named weight of seed, or the biggest Potatoes from any area of land. I suggest the former, and I would not advise more than 30¼ square yards (1 rod) of land being allowed for every half stone of tubers. We do not want to encourage useless extravagance in land, and the margin given is generous. Another rule should say the amount of money the society allows each competitor to spend on artificial fertilisers, and it seems to me that 1s. or 1s. 6d. per square rod per season would be, in practically all cases, ample. Another rule should fix the date for lifting the crop, sufficient margin being allowed for the variance of the season. As most of the people will have purchased their varieties, a rule should be made allowing men to plant whatever sort they consider best.

Having had this meeting, the promoter should get the local paper to put in a note on the competition and later on insert a picture of the first competitor planting his Potatoes. During the planting weeks members of the committee of the society, as well as the promoters of the competition, should frequently visit the allotments, which should also be inspected at intervals during the growing season, for the sake of assurance that the rules are being obeyed.

When the lifting day comes it is desirable that the Potatoes be lifted in the presence of the committee and promoter and weighed. No "chats" ought to be added, since these are useless for human consumption. Any dispute should be settled by an outside referee.

If there is anything which prevents folks from competing it is a long string of strict conditions The conditions above are simple enough and few in number, and if generous prizes are offered and no annoyances, such as entrance or registration fees, imposed, there should be no dearth of entries.

It is not too late to start work in this direction but a beginning should be made as soon as possible If a Potato contest could be arranged in every district this year it would raise the crops to 12 tons per acre. Folks would do their best if it was made worth their while, and I can see no reason why it should not be. PIONEER

BERRIED SHRUBS of UNCOMMON BEAUTY

This article describes the best of the Cotoneasters, many of which are newly introduced to this country. Some species grow into specimen trees, while others of trailing habit are at home in the rock garden.

BY EDWIN BECKETT, V.M.H.

OF the many families comprising the order Rosaceæ I doubt if there is one that can lay claim to so many decorative virtues or utility at the present season of the year as does the subject of these notes. At Aldenham, where we can claim to successfully grow many treasures, the Cotoneasters are a very distinct and outstanding feature in the various portions of the gardens and grounds, and we have made the freest use possible of the various species and varieties, with their great diversity of habit and appearance, and when it is considered that we have upwards of half a hundred named species and varieties, not to mention scores that at present hide their true identities under the numbers allotted to them by various collectors, it can well be imagined that it is no small task to have distributed them with sufficient care to enable each to be seen as nearly at its best as possible, and yet avoid a clash of them all in such a way as would give one an impression of a regiment of Cotoneasters.

COTONEASTER HENRYANA, WITH FRUITS OF A BROWN TONE OF RED ON PENDULOUS BRANCHES.

It is a widespread family, and has been introduced into this country from such different locations as South-Eastern Europe, Turkestan and Asia Minor, the vast snow-clad ranges of the Himalayas (from whence have come some of the most beautiful), thence *via* Thibet, through the various provinces of China and on to Manchuria and Siberia.

Not remarkable for their beauty at the flowering period, yet in good seasons they are in many cases decidedly pretty and have a charming effect when the bunches of small flowers, mostly snowy white, though in a few cases pale pink, are fully open. Foliage can, however, claim higher mead of appreciation, many of the species being evergreen or sub-evergreen, and of considerable beauty, but, of course, it is the fruit that comprises the real beauty of the species in the majority of cases, being mostly bright red in colour, chiefly borne in bunches of greater or lesser dimensions, though in a few cases their colour is yellow, and in one or two instances black, or nearly so.

Very fine introductions have been made during recent years by the various collectors, such as Messrs. E. H. Wilson, Forrest, Kingdon Ward, Cooper and the late Reginald Farrer, though of this group I am disposed at present to plump for the first named as that of the man who has sent us the best representatives of the race so far. This opinion, is, perhaps, formulated owing to the fact that, Mr. Wilson being an early starter, we have, to date, seen the best results from his efforts owing to the plants raised from the seeds he sent home having for the most part a few years seniority over those of the others.

Various habits were earlier referred to in these notes, and a brief explanation of this is, perhaps, called for. I purpose dealing a little further on more descriptively with the sorts that are probably the best of the group, but for a moment would generalise from the point of view of their differing characteristics of growth. Here at Aldenham, Cotoneasters will be found in bush shape, forming beautiful beds in that part of the garden known as the Wilderness, while near by will be found other beds, in which are growing plants which have a creeping habit of growth. In other parts of the grounds will be discovered specimens which have been worked as standards and which now form small trees, some upright in growth, while others have a beautiful pendulous or drooping habit. Some will be discovered as large or small shrubs, carefully kept in check and good shapes induced by expert rocky headlands situated along the course of the ornamental waters, others will be seen growing that have a beautiful trailing and carpeting method of growth, and these latter will also be found on the edges of the large clumps of ornamental trees and shrubs. One last feature must not be forgotten and that is where they are employed for decorative work on the "Rooteries" or masses of portions of roots, and even whole tree roots, which have carefully been set up as a wandering ground for some of the more rambling and coarse-growing subjects, such as various Rubus and Polygonums, and in this portion of the grounds the Cotoneasters are employed in the form of good-sized standards. It will be seen from the foregoing what a variety of uses can be found for the employment of the various Cotoneasters, and the following descriptions, together with illustrations, will convey an even better impression of the differing forms. The first species that claims attention is undoubtedly

C. frigida.—Introduced nearly a century ago from the Himalayas, it is still one of the most beautiful berried shrubs or trees yet known. In this instance we have been able to "paint the Lily," inasmuch as it has been our fortune to raise an extra fine form known as C. frigida var. Vicarii (after the Hon. Vicary Gibbs), and in this variety we have attained larger berries than the type, produced in bigger bunches and more freely, and with this has been obtained a finer and larger foliage. This variety gained an award of merit at the Royal Horticultural Society's meeting on November 3rd this year, and the trees of it are a wonderful sight at the present time, literally one mass of berries, bright red in colour. There is a yellow fruited variety of C. frigida which has been given the varietal name of fructu-luteo, but we cannot claim to have this growing here. Most of our trees of C. f. Vicarii are of good height now, being about 15 feet to 20 feet, and this is one of of the sorts growing on the Rootery, in the gardens.

The next variety which calls for mention is one which gained a similar award on the same day as the foregoing, viz.:

C. salicifolia var. floccosa.—One of the daintiest of all the family, it has a very pretty arching habit with its long slender growths, while its foliage is also of beauty, being glossy green above with a white or rather whitish grey beneath. The fruit is also very handsome, about the size of a Pea, bright red in colour and carried in fair sized bunches along the length of the branches. The habit of the plant is to form a good-sized shrub, and the one at Aldenham has now attained a height of about 8 feet. It was discovered by Mr. Wilson in Western Szechuan in 1908 and again in 1910, and is a great addition to the group.

Closely allied to this is its fellow variety, C. salicifolia rugosa, the chief differences being the latter variety having larger leaves, rather larger fruit, but slightly less in quantity and coral red in colour, and being an altogether more robust and vigorous grower than C. s. floccosa. This was also a discovery of Mr. Wilson's in 1907, being found in the Province of Western Hupeh, China.

C. Henryana is another of our gems. Discovered by the same intrepid adventurer in Western Hupeh in 1907, it is similar in appearance to the

on the top and wool-covered beneath, the fruit being of a brown tone of red, rather than bright or coral red; while another distinguishing feature is the more sparse growth of its pretty pendulous branches.

C. bullata, a variety which we grow freely, is one that is well worthy of cultivation on account of its fruiting propensities, which set in clusters of bright red berries freely along the branches. Of flower or foliage little need be said, as neither would cause a second look on account to their beauty. It is a native of Thibet and Western China, and forms a tall shrub, but with a little care it can be worked as a standard, and thus forms a small growing tree.

C. bacillaris, another tall-growing shrub which can be induced to form a tree, is related to C. frigida, and is probably the most beautiful of the race from a flowering point of view, but what it gains in this direction it sacrifices with regard to its fruit, for the berries, though plentiful, are not so gay, being nearly black, of a deep brown or purple brown tone. It is a pretty plant from its habit of growth owing to its branches curving outwards and then falling slightly pendulous. Its native home is well up on the higher slopes of the Himalayas. Closely allied to it and C. frigida is another species—C. affinis—also from the same locality, which was introduced soon after its last-named relative (in 1828). This species has similar fruit to C. bacillaris, but the foliage approximates to that of C. frigida.

A few other of the taller-growing varieties that we prize here are C. acuminata of the Himalayas; C. Franchetii from Western China and Thibet, with its pretty foliage, downy when young, and its orange-shaded red fruit; C. multiflora, a native of China, which is a good flowering species; C. pannosa, a native of Yunnun, which is very similar in appearance to C. Franchetii; and C. Zabelii, which was sent home by Mr. Wilson from Western Hupeh in 1907 and again in 1910. Also I must specially mention that fine old favourite,

C. Simonsii, known for so many years in British gardens, and still worthy of ranking among the best of them. We have a very fine specimen at Aldenham which measures no less than 14 feet high with a spread of approximately 32 feet. In good seasons this species will produce fruit nearly half an inch in diameter.

So much for the tall-growing species; now for a few of the smaller bush forms.

C. Dielsiana. This is an extremely pretty bush in these gardens, and is a species which was introduced from Western Hupeh by Mr. Wilson for Messrs. Veitch in 1900 and again during the Arnold Arboretum Expedition in 1907. It is often grown in gardens under a synonymous name—C. applanata—which refers to the peculiar habit of growth, the branchlets spreading in two ranks in direct line from the branches, and giving a fan-like appearance to the whole, a feature also marked in some of the other species. It is a very effective-looking bush, and even more dainty is its variety, C. Dielsiana elegans, which was discovered in Western Szechuan by Mr. Wilson in 1908.

C. horizontalis (syn C. Davidiana), a low-growing Chinese shrub, is especially worthy of growing at Aldenham in large beds, and their present colour almost baffles description, being one sheet of dull deep red, almost as though huge sheets of tarnished copper had been cast on the ground. This species also has the peculiar distichous or fan-like habit of branching. There is an interesting variety with smaller leaves known as C. h. perpusilla, which Mr. Wilson discovered growing on open stretches of rocky ground in Western Hupeh, both in 1900 and 1907, but which he considers to be merely a climatic variation. This variety has kept its character fairly well at Aldenham, but, as Messrs. Rehder and Wilson cautioned in the Plantæ Wilsonanæ, seedlings raised from it have been found to revert to the typical form. Somewhat similar to these is

C. adpressa, a dwarf-growing bush with a spreading habit. It is a stiff, close-growing little thing, and proves useful in rock gardens; this, though not introduced firstly by him, was also found by Mr. Wilson growing in Western Szechuan. One of the most handsome of the smaller bushes is

C. divaricata, first found by Professor A. Henry Western Szechuan in his travels about

COTONEASTER PANNOSA.

The deep red fruits are freely borne on slender arching sprays.

and later by Mr. Wilson during 1900 and 1907 in the Province of Western Hupeh. Not unlike C. Simonsii at first glance, yet when they are closely compared considerable difference is at once noticed. It has small, effective, glossy green foliage and is a good fruiting species, though somewhat sparse, its berries being oval in shape and of a dull red in colour.

C. Harroviana is another most excellent species for which we have to thank the two explorers just named, and is an evergreen with free-flowering habits, followed by bright red fruit An interesting species discovered by Mr. Wilson in Western Szechuan in 1910 is

C. nitens.—It is very closely related to C. divaricata, but has almost black fruit as against the latter's red fruit.

Of the Cotoneasters which have a creeping habit which makes them so useful as adjuncts to a well-kept rock garden there is little doubt that

C. Dammeri, and its variety radicans, take the lead. Handsome in foliage and with oval-shaped bright red fruit, they look very charming overhanging rock as they are so often found in their native haunts, the former coming from Western Hupeh and the latter from Western Szechuan, and were both introduced by Mr. Wilson—C. Dammeri in 1900 and 1907, and its variety in 1906. The variety is probably found in British gardens mostly under the name of C. humifusa, under which name it appeared in the "Hortus Veitchii" in 1906. Another species which is exceptionally useful in a rock garden is

C. congesta.—This forms a dense carpet of stiff, long, whip-like branches, growing along the surface of the ground, and very closely clad with tufts of small oval-shaped leaves. Though frequently found in gardens bearing the name C. pyrenaica, it is really a native of the Himalayas. Its dense habit is admirably displayed in the specimen plants grown in the Aldenham rock garden.

C. thymifolia, also gleaned from the high reaches of the Himalayas, is another rock garden gem, being a most effective-looking creeping plant, with dark green, narrow, shiny leaves, carrying pink-tinted white flowers which are succeeded by small, bright red fruits.

C. microphylla is another species I must refer to. This I remember as long as any, and, incidentally, it was the first long plant name that I was taught to spell by my dear mother. Whether trained to a wall or trailing over rocks or grown in bush form, it is one of our most beautiful autumn and winter berried plants, being generally laden with its bright red fruit This, too, has its native home in the Himalayas, and was introduced nearly a century since. It is closely related to C. thymifolia, above referred to, and also to C. buxifolia, the latter a species introduced at the same time

from India, but which forms a fairly rampant growing bush up to 12 feet high; it is one of our most useful forms of the Cotoneaster family and, similar to its relations, is evergreen.

The species and varieties which I have endeavoured to briefly deal with are undoubtedly the choicest of the many that we have, other than those referred to as being under collectors' numbers still, many of which promise us great beauty later on. Only two points remain to be noted. The first is to remark on the splendid way in which many of the species have this year coloured and fruited, and, secondly, to record that many are at this late date coming into full flower again, an out-of-season accomplishment caused no doubt by the very mild early autumn that we experienced last year. One species in particular, C. huphensis, collected by Mr. Wilson in various parts of Western China, is at the present moment very gay with its flowers.

BOX EDGING—FOR AND AGAINST

WE who live in Hertfordshire are justly proud of the fine old gardens which beautify the county, and it is not too much to say that their beauty owes a great deal to the artistic use of Box edging. The most ancient Box I have ever seen is what remains of the edging in a garden of the Benedictine monks at Hitchin, which was planted in the reign of Edward IV, who came to the throne in 1461. The most picturesque examples of Box edging I have ever seen are in the gardens at Ashridge Park, Great Berkhamstead. Parts of the garden are of a great age; Mr. David Robertson, the head gardener, informed me that the Yew trees near the Monks' Walk are certainly more than three centuries old. The whole plan of this ancient garden is outlined in Box, with the most pleasing and striking effect. In the Italian Garden and Fountain Garden (*see* page 598, "The Century Book of Gardening"), the flower beds are edged with a double row of Box, where Roses and a great variety of other flowering plants may be seen flourishing in the closest proximity to it. In a parterre there is one of the most charming beds, surrounded by Box, to be seen anywhere and I cannot believe that the beautiful design could have been carried out successfully with any other edging. In the centre of a square sunk lawn, surrounded by a low hedge of clipped Yew, this artistic bed stands like a jewel, and from the middle of it rises a graceful and richly carved stone pillar. No verbal description can give an idea of the design or its setting. When I saw it some time ago, a superb collection of Rhododendrons by the lake near by lit up the scene with a mass of brilliant colour. In conclusion, I might add that Roses and many foliage and flowering plants may be seen flourishing in beds surrounded by an old Box edging in the celebrated Topiary garden at Levens Hall, Westmorland, of which a delightful illustration appears on this page. Here, again, I cannot conceive of any other edging which would look in such perfect keeping with the entire picture.—H. H. WARNER, *Hoddesdon, Herts.*

FLOWER BORDERS SURROUNDED BY BOX EDGING AT LEVENS HALL, WESTMORLAND.

"SYBIL" and I must agree to differ (page 37). She will never persuade me that Box edging is other than a mistake, save in gardens where it is intended to represent some historical feature, or characteristic. I would as soon have the intruder in my rock-garden. In "most positions" the flowers are best left to make an edging of themselves, a broken line of colour and interest at all seasons that never looks up at you with the pitiful appeal, "What am I here for?" I may tell "Linders Lea" that I had no particular garden in mind when writing my note, but I have seen no less than three Rose gardens among my own family which had at length to be rooted-up, the Box put on the bonfire and the beds replanted.—A. T. J.

FOR kitchen paths I have much to say in favour of Box as an edging. For Rose beds, too, if the paths are gravel or bricks, I should advise Box. For the herbaceous borders, or where Rose beds are on grass, circumstances are different. For the former I prefer stones laid flat, of uneven size, forming nooks in which low-growing plants like Aubretias, Thyme and Sedums, can be grown in masses, adding interest to the border as well as right down to the path itself. Where Roses are planted on grass no other edging is needed, although objection is sometimes taken to the bare part of the soil next to the grass. The remedy, where such an objection is made, is to plant Violas, which flourish, as a rule, under the Rose trees.

The cause of Box edging coming in for abuse and dislike is very often the manner in which it is managed, not only as it is cared for yearly, but by the wrong method of planting. To establish Box edging alongside of paths in a proper manner is no light task for an amateur. No detail in path construction requires more knowledge and even art in procedure, combined with the correct method of planting the Box. Properly planted and well managed, Box edging should not at the end of twenty years be more than 6 inches high at the utmost nor more than 3 inches wide. Such edgings, when properly made, require but a minimum of attention afterwards. An annual clipping in April is all that is required. The best of Box edgings can be spoilt in one year if the soil on the border side is allowed to cover the edging. Careless diggers of the border or plot within too often cover the edging with soil, thus not only spoiling the appearance of the edging, but smothering the growth as well.

My experience of Box edgings does not allow me to fear that they are a harbour for slugs. Forty years ago I planted 1,000 yards of Box as an edging to the kitchen garden paths. For over twenty years I may say they were perfect edgings, until circumstances occurred which allowed the Box to get out of hand. The first item to pay attention to in the formation of Box edging is to level the soil, whether it be a running or a dead level. For example, a border 12 feet wide from a wall to the path, and the path a further 4 feet in width. In many cases the land slopes slightly to a given point, meaning that the border and path is on a running level. A fixed point on the wall is taken at both ends and a similar point is fixed in the

path which, in appearance, is better than a level border. At the extreme ends of the path on the border side a fixed point is marked. Take three T boning rods: one is held at each end, and the third stood on pegs at various distances between, which will give the correct height of the edging base, and a true run, dead level or not. The soil is levelled to these pegs either by reducing or filling up, as the case may be. The width of the path is to be 4 feet; opposite the two end level pegs place another in the 4-feet line at the same level, by the aid of a square-edge and spirit level. Thus the path may be made quite level if the boning rods are used on the opposite side of the path, in the same manner as before, or further pegs are inserted with the aid of the spirit level and square-edge.

The soil for the edging is then dug over at least 1 foot deep, the same in width, broken quite fine and trodden down firmly, finishing the surface quite level. A taut line is then fixed exactly where the edging is to be planted. With a sharp spade the soil is thrown out into the path, thus forming an upright trench, 6 inches deep, close up to the line, in which the Box is planted. The Box is then prepared for planting, by pulling it into small pieces from 3 inches to 4 inches long with a small portion of root attached and cutting off the top, which enables the edging to be quite level and uniform in height when completed.

The best way to plant the Box is to start on the left side of the path, the right knee on the ground and the left foot in the trench to make the soil firm over the roots as planting proceeds. With the right hand place the prepared pieces of Box in the trench, keeping them a uniform height of 1 inch to 2 inches above the soil. With the left hand hold the pieces in position, the right hand then draws some of the fine soil over the roots in the trench, the left foot making it firm as the work proceeds. When the line is complete the trench is filled up and the soil made quite firm, thus keeping the plants in position. If the work is properly done a complete neat edging is formed, which needs no further attention until the following year, when but little clipping will be needed, if any—April is the best time for that operation.

The best method of carrying out that detail is to cut off the top of the edging with ordinary hedge-cutting shears at a given point, say, 2 inches from the soil. Down the centre of this flat edging stretch a line tight, making it secure with a wire peg here and there. Then, with a pair of sheep-shears, cut the Box in a uniform slope on both sides close up to the line on the top, thus you have a perfectly straight edging and of uniform width. This clipping should take place annually in April, and if properly done the edging will remain perfect for many years. I omitted to say March is the best month to plant Box edging, growth starts away at once.—E. MOLYNEUX.

I CERTAINLY agree with "Sybil" that "A. T. J." ought to name a better substitute than Boxwood for edgings; it is always easy to find fault, but oft-times difficult to suggest something better. I love Boxwood, and my own feeling is that if there is any fault to find, Boxwood is too good an edging for a Rose plot. It deserves to encircle something more distinguished. Boxwood has not a smell, it has a perfume, a fragrance, a scent that oft-times wafts our thoughts back to the days of our forefathers. It would be equally correct to speak of the "aroma" of a dungstead, as of the "smell" of Boxwood.

The taproots of Box run straight down, and the side bushy roots do not extend very far, I think, and could easily be checked by inserting a spade round the border once a year, nor do I think Boxwood forms a kindly harbour for slugs, though I have not much experience of these pests. I do not consider clipping once a year, possibly at the end of May, when the work is well in hand, entails much upkeep. I think "A. T. J." will spend more time keeping any other living edging in order. Of course, tiles, bricks, cement and, as I have even seen, edgings of half-buried bottles (silent reminders of past transgressions), cannot be entertained by any well-balanced mind. There are few things more charming in the garden on a winter day than the trim bright green of a well-kept Box edging, though granted its effect is somewhat marred surrounding a dreary Rose plot, perchance rodolent of the "aroma" of manure. I note "Sybil" says her Box is only some 6 inches high. Well, I prefer it much higher, say, 18 inches or

even 2 feet, at which height it gives a delightful air of antiquity, besides affording some little shelter. I can understand (though I do not know that I always admire) a Rose garden in large grounds, but in small ones they seem to me rather out of place. I feel if the owners would use their Roses as they do herbaceous plants in the borders, in groups of three or five, here and there, among their herbaceous plants the effect would be much more charming. For example, the old-fashioned pink, monthly or China Rose and Austrian Copper treated thus are very effective, as are many of the free-flowering Hybrid Perpetuals. I also feel that the Rose has to put up with a great deal too much pruning. Why not leave the poor thing alone and let the branches reach nearer to a level with the eyes and nostrils? Why require to crouch down to enjoy the blooms of a bush that has been cut back to, say, two eyes? I grant if large blooms are desired you must cut in order to get the same effect as the single stemmed, bloated, mop-like Chrysanthemum, but is it artistic or beautiful? It is just the old, old story of "Anne Amateur's" famous big Onion over again, or the prize fat beast in the Smithfield Fat Stock Show, grown out of all recognition.

I recollect wandering into a deserted garden and there, towering above a sea of weeds and long grass, I saw a magnificent sight which, in the distance, seemed to me like a Tree Pæony some 5 feet or 6 feet high and about as much through, but when I came closer I found it was a Rose growing at will; and the name of that Rose was Frau Karl Druschki.—FORMAKIN, *North Britain*.

A Chinese Rhododendron with Mauve Flowers

(R. AUGUSTINII)

THIS beautiful Chinese Rhododendron is named in compliment to Mr. Augustine Henry, who was the first to collect specimens in Hupeh. Seeds were subsequently received by the late Mr. Maurice de Vilmorin from one of the French missionaries and by Messrs. James Veitch from Mr. E. H. Wilson. The specimen figured is a seedling raised by Messrs. James Veitch. An evergreen shrub up to 8 feet or 9 feet in height, R. Augustinii has oblong-lanceolate leaves 2 inches to 4 inches long and about 1 inch broad. Botanists point to lines of hairs along the midrib on the under-surface of the leaves as the most important character of this species. The flowers are widely funnel-shaped, 2 inches to 3 inches in diameter, varying in colour from white to mauve, purplish pink, and a bluish lavender shade. While some, including the plant illustrated, are most attractive in colour, others may be described as indifferent. Hence there is ample opportunity for selection and improvement.

Gloxinias.—For early flowering a nice batch of these may now be started, giving treatment in the early stages similar to that accorded Begonias. Seed should also be sown now so that a useful lot of young plants may be raised for autumn

A PLEA FOR THE LAUREL

One of the Noblest of Evergreen Shrubs

BY GERTRUDE JEKYLL, V.M.H.

THE wholesome reaction from the pernicious influence of the all-pervading bedding system of nearly half a century ago had one effect for which there was no right or fair foundation. Many people came to the conclusion that the scarlet Geraniums, yellow Calceolarias and blue Lobelias, that had been done to death in stiff beds and, still worse, in unending ribbon borders, were bad things in themselves, whereas they are, and always will be, among the best of our summer flowers. It was not their fault that they were used in dull and tiresome ways, but as for a long time they had been connected with a wearisome form of gardening, it was not unnatural, when better ways were becoming known, that they should be looked at askance if not altogether condemned by the general gardening public. Even quite harmless words may by association come in for the same kind of superficial distaste. The name Whitehall has dignity, standing as it does for noble buildings of exalted purpose; Whitechapel is a name no less beautiful in itself, but because it means a dingy and slummy part of London we lose sight of its intrinsic value. So, whether we are thinking of a word or a flower or a shrub, let us clear away any unfavourable

A SELECTED FORM OF RHODODENDRON AUGUSTINII.

and try to take a fair view of it on its own merits, The common Laurel has come in for much the same kind of unmerited condemnation as the best known of the bedding plants, and it has suffered all the more by reason of its many good qualities. It is cheap to buy, easy to grow, undeniably handsome, and it can be put to many kinds of use; but just because it is so patient and accommodating, and has been used as such a common hack, we have come to look upon it with a kind of distaste that with some people amounts to disgust. But if one considers it quite fairly and without any kind of prejudice one cannot but see that, in spite of the many base uses to which it has been put, it is one of the noblest of evergreen shrubs. Let us think for a moment—if we had never seen a Laurel, if it had now been only newly imported, what a stir it would make in the world of horticulture; what a rush there would be for the grand new thing; how it would gain honours in Vincent Square; how people would flock to Kew and Wisley, the only places where as yet they could see that wonderful new shrub, Prunus Laurocerasus; how proudly within the next year the garden owner would exhibit to his friends the thriving young plant for which he had paid a guinea (and cheap at the price!); what admiration for its lustrous leaves of strong substance, its fine straight shoots, its pleasant look of prosperous cleanliness! What visions of how in the future, when it had become more plentiful, it could best be used, as a handsome shrub by itself, as hedges of important foliage, as arbours and green arches, as a worthy accompaniment to refined architecture of terraces, flights of steps and balustrades, as background with niches for sculpture! We seem to have lost sight of all these worthy possibilities, and yet there is the patient Laurel only awaiting the time when its good qualities shall again be recognised and its worthy use shall again be carefully studied. Excepting our native Yew, there is no evergreen that can be adapted to so many uses as the Laurel. It makes a perfect hedge, to be carefully trimmed with the knife—never with the shears; it can readily be trained into any form of bower or arbour, and where there is space, as in outlying parts of pleasure grounds, it is a grand thing when let to grow as it will.

There are three stretches of woodland near my home in South-west Surrey, on three adjoining properties. In each of these there are a number of large old Laurels that have never been pruned. I have not been able to find any record of their planting, but they must be near a hundred years of age. It looks as if three neighbouring squires had agreed together at the same time to try them as woodland shrubs for game shelter. In the wood nearest to me, where there is one roughly

rooted to where, far and high overhead, their utmost shoots reach the open daylight. Their trunks, elephant grey in colour, are something like 10 inches through. Many of them grow in a fantastic way—the stem rising and then bending down and running along the ground some 10 feet or 12 feet before rising again and shooting up to the light. In the dusky dimness of the grove they look like great grey serpents writhing about and then rushing upwards. To see them like this and also growing naturally in rather open woodland is to receive some quite fresh ideas as to the possible uses of this much neglected and ill-used shrub.

AN EARLY FLOWERING HARDY SHRUB

Rhododendron præcox should find a place in every garden. It may be flowered in the open or under glass, and will even flourish in a town garden.

IT is surprising that Rhododendron præcox is so seldom to be found in gardens, and equally surprising that it has never been taken up as a market flower. As a flowering shrub for the open air garden it is easy and accommodating and, so far as my experience goes, it has only one drawback. It flowers so early—February and March—that its lovely blossoms run the risk of being damaged by unfavourable weather. At the first spell of comparative warmth and sunshine the plant rushes into bloom, and then too often comes a night with some special form of poison—frost or blizzard—and reduces the lovely mauve bells to a shapeless mass. This black business, however, may be guarded against by planting in a shady spot sheltered from wind. Shade seems to promote vigorous growth and, what is still more important, it enables the blossoms to thaw gradually and so escape damage. The blossoms may be rimed with hoarfrost and yet escape damage if they can thaw without direct sunshine striking them.

The finest specimen of Rhododendron præcox I ever saw was growing in a little back garden in Sheffield, five minutes' tram ride from the centre of the town! It was heavily overshadowed by big Lilacs and Privets, and when I came to move it a few yards, as I had to, I found it was growing in the wickedest putty coloured clay I have ever seen. This specimen was a good 4 feet high, with healthy, glossy foliage, and masses of flower-buds from top to bottom, so that Rhododendron præcox would not seem to be particularly fastidious in its tastes. Here it grows well in ordinary loam. In peat it would doubtless grow even better. I have never tested it as a lover or hater of lime. But it is as a plant for the house that I especially value R. præcox. Branches may be cut from open ground bushes as soon as the buds show colour, the stems scraped and placed in water, and then in an ordinarily warm sitting-room they open perfectly and last for a fortnight.

I grow several plants, also in pots, and they force splendidly. In former days I used to heat my greenhouse and bring these pot præcox in and get them into flower in a few weeks. But in these shivering, coalless days I prefer that any shivering that must be done should go on in the greenhouse, with the result that we are without early bulbs and the many jolly oddments and menavalins that the greenhouse used to bring forth. Rhododendron præcox has proved the only exception. A couple of pot plants were brought in to share the one, and only one, coal fire, and they rushed into blossom and have been a real joy. One is in a grey-green Japanese pot and strikes a quaint picturesque Japanese attitude. The other is in a common 12-inch garden pot, and was cut when the flowers were half open and put in water. The graceful reddish stems—red, like the stem of

R. ponticum, are one of the most delightful things one could possibly have for the house at this time of year. And they last a fortnight, which is long enough, and not too long. I hate a flower that lasts so long as to require dusting!

My treatment of the pot præcox has been very simple. I originally cut the fibrous root balls to a convenient size with a big knife and then pot in a mixture of turfy loam and leaf-mould. After forcing they are stood out in the garden in any shady, convenient place. Later they are cut back hard if required for cutting next year, or cut back a very little if to be grown purely as pot plants and brought into the house as such. Later, in spring, the pots are buried to the rim in the ground. There they remain, to be watered when they seem to need it or when one happens to think of it, and then they make their fresh wood for the following year and their fat, terminal buds for flowering. At a convenient time in autumn they are brought into the greenhouse and forced or not, as fate and the miners decree.

Last year I started some tiny plants 3 inches or 4 inches high in small Japanese pots. These all have buds and will be in flower in a few days, and they promise to be uncommonly attractive for the house. These tiny plants were taken as half rooted shoots from the base of older bushes potted up and cut back, and then treated exactly like the older pot plants. CLARENCE ELLIOTT

A REMARKABLE AZALEA

I HEREWITH enclose you a photograph of Azalea indica, which, I feel sure, will be of interest to your readers; this I had taken last week. The gardens at the present time (November 15, 1920) are ablaze with these fine specimens. This is one of many, and measures 18 feet in diameter by 10 feet high, and is certainly a record for the Dominion. I should be glad if any reader would let me know if they attain such dimensions in other parts of the world. I may mention that during two or three months of the year we get frosts up to 13°; under these conditions it can be considered fairly hardy. W. WILLCOX.

Government Gardens, Rotorua, New Zealand.

A REMARKABLE SPECIMEN OF AZALEA INDICA AT ITS BEST.

New and Rare Plants

FIRST-CLASS CERTIFICATE.

Sophro-Lælio-Cattleya Joseph Charlesworth L.-C. Eurydice × S.-L.-C. Marathon).—A remarkable and striking tri-generic hybrid of exceptiona colouring, difficult to portray. The petals are of an intense cerise shade till near the tips, where a rich ruby red prevails. The lip is of an intenser shade and most effective. This unique novelty came from Messrs. Charlesworth and Co., Hayward's Heath.

AWARDS OF MERIT

Odontoglossum Trident (O. eximium × O King Albert).—A good novelty of medium size and dark plum colour in the main. The well imbricated petals have a white, almost thread-like margin, the lip being strongly tipped with white Shown by Messrs. Flory and Black, Slough

Odontioda × Niobe Fasey's Variety (O Bradshawiæ × O. Jasper).—The admixture of colour in some hybrid Orchids is exceedingl difficult to define, the clouded red in this instan appearing apparently over a mauve ground From W. R. Fasey, Mr. E. I. Seymour

Cymbidium Martin C. Parishii var. Sand

refined cream in a perfect blend in the petals of this unique novelty go to make it one of the most beautiful and distinct of its tribe. Its whiter lip is marked by a half-inch long line of ruby crimson, the sides copiously marked by the same colour in spots of pin-head proportions. Quite one of the most charming of the Orchid novelties of the day. Sent by Lieutenant-Colonel Sir George Holford, Tetbury (gardener, Mr. Alexander).

Cattleya × Monarch brugensis.—A pleasing and beautiful hybrid in which the petals of pale mauve shading are in striking contrast with the rich ruby crimson lip, the latter plumosely crested at the margin. From Messrs. Sander and Son, St. Albans.

Primula stellata Fairy Queen Improved.—A novelty of shortly pyramidal habit of growth which apparently to some extent embraces the floral characters of stellata and The Duchess, those of the last named, so far as colour is concerned, being the more pronounced. It is a rather attractive variety. Shown by Messrs. Carter and Co., Raynes Park, S.W.

The above-mentioned novelties were shown before the Royal Horticultural Society on January 25, when the awards were made.

Apple Claygate Pearmain

One of the Best Late Dessert Varieties.

At a meeting of the Royal Horticultural Society held on January 11 Messrs. George Bunyard and Co. showed Apple Claygate Pearmain, for which they received the unique and exceptional award of a first-class certificate. For flavour this Apple is of the highest quality, but it is not new and by no means a rare variety, although not as widely grown as it should be. As a rule this award is reserved for new or rare fruits; who knows, perhaps the Grape Muscat of Alexandria will yet come up for an award. I am told by an old inhabitant of Claygate village that this Apple originated apparently as a seedling, in a hedge surrounding the estate now known as The Firs, Claygate. It was first recorded by Mr. Braddick, who exhibited fruits in or about 1822. Scions from the original tree were grafted upon the Crab Apple stock, and there still remain in the gardens at The Firs, Claygate, three very old trees of this variety. Fruits from these trees were exhibited about 1849 at the Royal Horticultural Society's Fruit Show by Mr. J. Child of Chrysanthemum fame. Even at that date the trees were of a good age, so that it seems reasonable to assume that these trees were grafted before it was introduced by Braddick in 1822. These old trees are still capable of carrying heavy crops, and when in their prime they are said to have borne from 25 to 30 bushels each, while the fruits have been kept sound until June. H. C.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Jasminum nudiflorum.—This delightful old climber, with its wealth of yellow blossoms during winter months, makes a good show when the supply of flowers is small. A point in its favour is its adaptability, for it is equally at home on a wall, pergola or clothing a cottage porch. One of the most charming results is obtained by allowing it to ramble at will over old logs or tree stumps. What little pruning is required should be done after flowering.

Hydrangeas.—Where specimen plants are required for tubs, the Hydrangea is excellent for the purpose. Plants already established and having been kept cool should now be overhauled for the removal of dead and useless growths,

APPLE CLAYGATE PEARMAIN IN THE GARDEN OF ITS ORIGIN.

with a view to gently starting the plants into growth. The Agapanthus, too, is an excellent tub subject and should likewise receive attention.

Dahlias.—Where any particular variety is in great demand, place a few roots in a warm house when a good supply of cuttings will soon be available.

Seed Sowing.—When, how and what to sow has been so well dealt with in The Garden that further remarks are unnecessary.

The Kitchen Garden.

Parsnips.—These require to be got in early, so the ground allotted for them, if autumn dug, should be forked over in readiness.

Parsley.—Should the supply show signs of exhaustion, some plants may be lifted and placed in pots or boxes in a Vinery or Peach-house, when new growth will soon be available. Cloches

Tomatoes.—The earliest batch are best fruited in pots, which need only be 8 inches in diameter, providing sufficient stimulants are afforded the plants when fruiting. The main part of the compost should be good loam, with a little leaf-soil, wood-ash, a sprinkling of bone-meal, and a few half-inch bones added to the crocks. Pot moderately firm, and endeavour to keep night temperature about 58° to 60°.

Potatoes.—Those required for early work should be stood on end in shallow boxes or trays and placed in a light yet cool house to induce healthy sprouts.

The Hardy Fruit Garden.

Grease Bands.—These should be examined, and if a second application is found necessary apply same at once.

Buds and Birds.—Where birds are very troublesome on Gooseberries and Currants I find an occasional dusting or spraying of lime usually has the desired effect.

Plants Under Glass.

Pot Annuals.—Clarkias and other annuals should be grown as cool as possible, for this not only makes sturdier plants, but lengthens the flowering period and improves the colours. Clarkias should be twice pinched to make nice bushes.

Camellias.—For a cool or slightly heated structure the Camellia is a good subject and with very little attention yields a wealth of blossoms early in the year. The plants, whether grown in borders or pots, should always be kept clean, and root dryness must be guarded against. As the Camellia is so hardy, I think it a pity groups of the plants are not more frequently seen outdoors. Among varieties chosen for indoor culture should be C. reticulata, a lovely rose pink, large-flowered variety. I have seen this a splendid picture on a wall in a house at Lockinge Park.

Cyclamen.—If not done, autumn-sown seedlings should be potted up into small 60s, using a light compost. A light position, a temperature of 60°, and a fairly moist atmosphere will suit present requirements.

Fruit Under Glass.

Melons.—When the plants are strong enough for permanent quarters, a good hotbed should be made before placing the soil in position. It is quite immaterial whether only enough soil is given them to start and afterwards added to, or whether the bed is fully made up at the commencement. Good loam is the compost for Melons, to which may be added a little mortar rubble. The rooting medium should always be firm.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—Owing to the excessive rains outside work has been much hindered during the latter part of December and the early weeks of January, our rainfall here for the first ten days of the year being nearly 4 inches; but should better weather prevail, digging must be forwarded with all possible speed and everything put in readiness for future planting and sowing.

Box Edgings.—Where these are in need of replanting or blanks require to be filled up, now is a suitable time to have the work carried out. In the event of new edgings being laid, have the ground well dug and properly levelled before taking out the notch for the plants. Lay thinly and evenly and should the ground seem inclined to be sour, have a quantity of sandy soil handy for placing next the roots so that fresh growth may be encouraged. Nothing tends more to give the garden an uncared for appearance than broken or decaying edging. Should Box prove unsuitable revert to stone edgings and introduce some dwarf Thymes and Saxifrages among them.

Sprouting Seed Potatoes.—The early lot of Potatoes for outdoor planting should be placed in shallow boxes and stood in an airy loft or shed to sprout. Care should be taken that the shoots

Strawberries.—Where accommodation allows for forcing these, a good batch may be now introduced. Pick the plants over and wash the pots, also see that the drainage is in perfect order. Place in a cool pit to start, keeping them close to the glass an, turning on a little more heat after the first

Midlothian Early, Edzell Blue and Sharpe's Express. For a second early we intend planting largely with Arran Comrade.

Plants Under Glass.

Begonias.—Sometimes it is desirable to grow an early batch of the tuberous-rooted sorts, and in this case a number of the strongest tubers may be picked out and started in a genial temperature. If the roots are strong there is nothing to object to in placing them right into their flowering pots, providing that care is exercised in watering, but should the tubers be on the small side, the better way is to start in boxes, using a quantity of rough leaf mould and sand, afterwards potting into richer material when the plants are well started.

Dielytra spectablis and Solomon's Seal.—A few of these adaptable border plants should be lifted and potted up for forcing. The Dielytra forms a most graceful subject for the conservatory, remaining in flower for a long period.

The Fernery.—If the weather proves unsuitable for outside work, the opportunity should be taken to overhaul the fernery. Spent subjects should be discarded and young stock advanced. Nephrolepis particularly should be encouraged, this handsome and accommodating type being most useful for house decorations. Where convenient a few hanging baskets should be filled with Asparagus decumbens; also A. Sprengeri, these being very ornamental, the long tremulous growths of A. decumbens being specially fine for cutting.

Fruit Under Glass.

Fruit Houses which have been started some time ago must be carefully attended to. Avoid excessive firing and keep the houses at a steady temperature, particular care must be taken with the ventilation as much harm may be caused by carelessness in this respect. Chills or draughts are often the cause of mildew on vines.

The Flower Garden.

Austrian and Penzance Briars.—These are most beautiful and interesting Roses, the latter being the most vigorous is splendid for forming a hedge or screen; they are really at their best when allowed to grow freely, with the minimum of pruning. The Austrian Yellow is a fine Rose and never fails to attract attention, its principal wants being a little thinning out of the old wood, the flowers being produced on the previous years shoots. When planting, the beds should have generous treatment, as the spreading habit of this Rose hinders work among them after the first year or so. JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.), *Coodham, Kilmarnock.*

Around the Markets

A DAINTY and fascinating little plant which, in its present state, Kew does not possess, is being sold at Covent Garden chiefly for retailing on our barrows. The "classy" florist turns up his high-bred nose at it, sniffs haughtily and passes by. But we humble costers buy it and it sells well, which latter is the real acid test, as the "Daily Helio" would say. It is quite a sweet little plant—a real live plant—in 3-inch pots and 5-inch pots. Dwarf and bushy, has neat little substantial green leaves and each shoot bears one or more relatively large showy flowers—real flowers. There are two colours, brightish red and a lovely soft pink. The plants continue fresh and attractive indoors longer than any other flowering plant I have bought, and, furthermore, when you have tired of its charms you may remove the flowers and plant it out in your back garden or in the front if you wish.

I am sure all this reads as though some Burbank has at last evolved the ideal plant, and I am tempted to give it a long, new name—a name troublesome to pronounce. But, as everyone knows, we costers never, well hardly ever, "tell the tale," so I resist and will divulge the true name of this little plant. It is Veronica Traversii with Immortelles gummed on the stems. This explains the proper hauteur of the West End florists who would not handle such a compromise, but to we humbler retailers it is innocent enough, and like a much advertised commodity, "supplies a long-felt want." I am certain, from what my scientific customer at times tells me, the big-wigs of the Royal Horticultural Society would immediately consign this made-up plant to . . . wherever bad plants go. But as it brightens the homes of many who can but rarely spend on floral embellishment it is an innocent deception which may be justified, and, anyway, it looks uncommonly attractive from a short distance.

These are by no means the only flowering plants in the market. In fact, this department is just now quite the most attractive of all. Spring bulbs in pots make a brave show, and with the mild weather increase in numbers daily. Many consignments are fully a fortnight earlier than the growers intended, but, unless there comes a glut, they will not grumble. Well-filled pots of Daffodils with the flowers just opening; Hyacinths of many colours

their period of usefulness and enhances their value to the ultimate purchaser, are excellent lines. Cyclamen and Cinerarias are particularly good, and of the latter there are some entrancing shades of blue and old rose. Writing of blue colour reminds me of the delightful Iris tingitana, which is now on sale, though the colour is really mauve, but it is a beautiful, delicate shade and brightened by the rich yellow blotch on the petals. Growers have found that the French-grown roots will force into flower earlier than do the Dutch, and they come quite easy for the present season.

The Irises, being somewhat of a novelty, of course sell well, but generally the demand for cut-flowers is not equal to that for plants. Carnations hang fire badly, and the French bloom is not going any too well. There is an abundance of Anemones, pink and nigger; Ranunculus and Narcissi of several sorts; while the Mimosa is of better quality than for a long time. The floral demand such as it is, is for Orchids and white flowers.

In the vegetable markets the luxury lines are all dearer and these include Asparagus from Devonshire, Beans from Guernsey and Madeira, and Rhubarb from Leeds. Brussels Sprouts are, naturally, in the shortage of green vegetables, dearer, and although the "buttons" are much smaller than earlier in the season, they are very firm and good.

Cape Peaches and Apricots are decidedly cheaper than a fortnight ago, and a fresh cargo is in dock. Bananas are also cheap, and no one should be asked more than 1½d. each now. A. COSTER.

January 21.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

FLOWERS FOR MID-MAY AND JUNE (*Brookside, Hants*).—Autumn-sown hardy annuals are valuable to flower during this period, notably Collinisa bicolor, Callendula officinalis, Bartonia aurea, Larkspurs and Limnanthes Douglasii. Foxgloves, Honesty and the Erysimums also flower at this season. In addition to Pyrethrums mentioned by our correspondent, other perennials are Oriental Poppies, Aquilegias, Centaurea montana, Veronica gentianoides, Geums, Trollius, Phlox canadensis and other dwarf varieties, Pæonies, Tall Bearded Iris and Violas (Tufted Pansies). Plant out the Mesembryanthemum acinaciforme in full sun at the end of April or during May in well drained soil, preferably among pieces of rockery stone.

GLADIOLI PERMANENTLY PLANTED (*J. A. B., Sheffield*).—We doubt if these would give satisfaction permanently planted in such a northern district, and do not recommend our correspondent to do it unless from the experimental standpoint and on a small scale. G. brenchleyensis is among the hardiest of these plants, though for hardiness, gaiety and vigour combined the varieties of G. Childsi are not surpassed. Hardiness in these plants hinges largely on the cultural methods adopted—the depth of planting, deep soil preparation, perfect drainage and the like. Planted at 9 inches deep, and therefore removed from the effects of frost while secure from the exciting conditions obtaining nearer the surface, they may prove not only hardy, but render a good account of themselves to boot. This, however, would involve much greater labour in the original preparation of the soil and planting than is usually given, though this would not be of annual occurrence provided success was achieved. An alternative to deep planting would be complete surface protection, a heavy mulching of short manure or Bracken. The idea of affording the beds a living mulch as, for example, the new Allwoodii Pinks, by way of protection we should not favour. These Allwoodiis—we speak as having authority and not wholly as scribes—are quite good enough alone, and should be able to play their part well. Moreover, Gladioli-time is Allwoodii-time too, and there might be no end of bad language used if the two got together and could not agree as to which was best. Then as some colours do "swear" at others in the garden occasionally, the "good" gardener should discourage that kind of thing by every means in his power.

THE GREENHOUSE.

PRIMULA OBCONICA FAILING (*J. A., Renfrew*).—The watering has been at fault. Never let the plant get too dry nor have too dry an atmosphere for them; on the other hand, do not let the soil become too wet

ORNITHOGALUM LACTEUM (*Devonshire and R. S. S.*).—The Chinkerichees is not much grown in this country outside botanic gardens, and a few places where bulbs are a speciality. We think that our correspondents could procure bulbs from Barr and Sons, King Street, Covent Garden. The Chinkerichees can be grown quite well in a cold house. The favourite Ornithogalum for this purpose is O. arabicum, the flowers of which are superior to O. lacteum.

BIGNONIA RADICANS (*Brookside, Hants*).—To flower this rampant climber satisfactorily liberal pruning is necessary in March each year. Cut the young growths made the previous season back to within an inch or so of the old wood as is done with a Grape Vine.

GREENHOUSE INFESTED WITH WOODLICE ("*Disheartened,*" *Aberdare*).—In the circumstances there seems nothing to do but to trap the woodlice. Hollowed-out Potatoes and Carrots placed near their haunts form excellent traps, which may be examined and the pests captured dealt with every day. Where poison is no objection it is probable that one or other of the advertised specifics would be the best thing to use.

FERNS ATTACKED (*E. T., Banbury*).—The roots of the Ferns have been destroyed by the weevil grubs which our correspondent sent, a species of Otiorrhynchus. These are very difficult to reach when in the soil, and the most satisfactory thing to do is to shake the plants out and repot. A little can be done by making a hole in the soil and pouring in half a teaspoonful of carbon bisulphide immediately covering the hole again. The beetles appear in April as a rule and feed on foliage of Ferns and other plants, and may then be captured if the plants are shaken over a cloth after dusk. The beetles hide in the soil during the day.

TREES AND SHRUBS.

THE CORNELIAN CHERRY (CORNUS MAS) (*R. H., Stratford-on-Avon*).—The flowering tree sent for identification is Cornus Mas, the Cornelian Cherry. The flowers

FLOWERING SPRAYS OF THE CORNELIAN CHERRY AND WILLOW CATKINS.

Both of which are exceptionally early this year

are usually produced in February and March, and are bright yellow at their best. This tree is a native of Europe, and has been cultivated for many centuries in Britain. It is one of the most valuable trees we have for early flowering.

CLIPPING YEW HEDGES (*X. G. H., Yorks*).—Yew hedges may be clipped at once. The best time to clip them, however, is at the end of summer.

PRESERVING BERRIES (*Billberry*).—We regret to say that we do not know of any method of preserving the berries of shrubs whereby they may be available in their natural colours for house decoration for an indefinite length of time.

ROSE GARDEN.

A GOOD BRONZE CLIMBING ROSE (*A. W., Walton*).—We have never heard of the Rose Empress of Austria. A good bronze climber is Aviateur Bleriot. It is not single. There is a single Rose named Austrian Copper and it is sometimes used as a climber.

ROSES AND BLACK SPOT (*D. C., Godalming*).—Rose-growers are still somewhat puzzled as to the treatment for this terrible plague, but a very useful plan and one that will mitigate the evil, is to dress the soil in November with iron sulphate and again in February, using about 6 ounces to a bed 10 feet by 5 feet. In our correspondent's case it would be advisable to dress the soil now and again in March. Spray every week from March till May with Bordeaux Mixture

FRUIT GARDEN.

NECTARINES CRACKING (*C. M. P., West Australia*).—The cracking of the Nectarines is due either to irregularities in the water supply, such as, for instance, a copious supply following a dry period, or to lack of lime in the soil. The latter is a particularly common cause of this damage.

MISCELLANEOUS.

LEAF-SOIL (*A. C. C., Hampstead*).—Oak and Beech leaves make the best leaf-soil, perhaps Walnut, Larch and Pine the worst. The leaves which decay into a wet mess on the one hand are not at all satisfactory, nor are those, on the other, which resist decay for a long time. Ivy leaves are little likely to be injurious, but they do not decay very quickly.

NAME OF PLANT.—*A. G. S., Kidderminster.*—Berberis buxifolia (syn. B. dulcis) var. nana. B. buxifolia grows 8 feet high; var. nana 1 foot or 18 inches.

PUBLICATION RECEIVED.

'College Botany, Structure, Physiology and Economics of Plants," by Melville Thurston Cook, Ph.D. Published by J. B. Luppincott Company, Philadelphia and London; price 12s. 6d. net.

FEEDING BEES WITH SOFT CANDY

THOUGH it is much too early in the year to disturb bees, it would be as well if there is any doubt as to their food supply to give each colony a cake of well-made soft candy. This should be placed directly over the feed hole in the lower quilt and wrapped up warmly.

Owing to the mild weather which we have experienced this winter, the bees will probably have consumed more than their normal ration of stores; hence the risk of starvation at the present time. The stronger the stock the greater the danger.

In most colonies breeding will have commenced, so it will be advisable to mix pea flour with the candy. This acts as a substitute for natural pollen—the nitrogenous food of the young larvæ.

The following is a simple recipe for making soft candy: To 6lb. of the best white cane sugar add one pint of hot water. Use for preference either an aluminium or enamelled pan; stand it beside the fire, stirring occasionally until the sugar is all dissolved; now add half a small teaspoon of cream of tartar.

Place the pan over a brisk fire or gas ring and boil for about four minutes, then remove from the fire and stand the pan in another vessel containing cold water until the syrup begins to cloud over. Directly cloudiness appears, stir vigorously, sprinkling in about half a pound of pea flour at the same time. When the syrup has so thickened that stirring is difficult, it should at once be poured into suitable receptacles. Section squares with the bee ways cut down and glazed on one side make very convenient boxes for holding candy; each will contain about 1lb.

When the candy is set, it should be a moist, solid mass, easily cut into with the finger-nail. If the candy is too hard the bees will be unable to make use of it without leaving the hive to obtain water; if too soft there is the risk of it running down between the combs and smothering many bees.

Failures in making good candy are often the result of (1) sugar not being properly dissolved before putting pan on fire; (2) over-boiling; (3) stirring syrup before it has cooled down sufficiently.

In making candy it is a good plan to cover the pan with a lid as soon as the syrup has reached boiling point; the confined steam will then melt any particle of undissolved sugar which may be adhering to the side of the pan. Failure to dissolve the sugar properly will cause the candy to crystallise during the stirring process; should this occur, the candy must be reboiled for about five minutes, adding at the same time another pint of water.

If the syrup is stirred before it has cooled sufficiently it will probably set very hard and be quite unsuitable for bee food. Before beginning to stir, it should be possible to hold the hand against the bottom of the saucepan without any discomfort.

If the candy is being made with the help of a sugar boiler's thermometer the pan should be kept on the fire until the temperature reaches 236° Fahr. and then immediately removed and the syrup allowed to cool as above.

Birdwood, Wells. L. BIGG-WITHER.

Raspberry Cultivation

WHILE visiting in the neighbourhood of Evesham recently, I was very much impressed by the vast areas used for Raspberry growing. In several instances whole gardens, particularly those of some of the cottagers, were almost completely devoted to this popular and profitable fruit. Unlike the Gooseberry and Currant, the Raspberry, even in a wild state, is often found of good size and high quality, though cultivation, of course, improves it, and several superior varieties are in commerce. The stems are biennial, that is, those that are produced one year fruit the next and then usually die, so that Raspberries always run, as it were, two crops abreast, one of fruiting and the other of growing shoots. All these shoots are called canes, from, I suppose, their smooth and straight character, and the chief aim in Raspberry culture is to maintain a constant succession of these canes, as strong and as straight as possible.

There is only one successful method of propagation, and that is from suckers. The plants of Raspberries are really aggregates of plants called stools. Each stool is composed of from three to seven canes, four being an average. From each of these separate canes one or more offsets, or suckers, may arise; some have few, others many. In some the sucker is so close to the plant that it is impossible to move it except by damaging the parent plant. In others the suckers come up 6 inches, 7 inches, 12 inches and even 18 inches from the plant, and it is with these that new plantations should be made, being well rooted and easily detached without injury to the stools. Prepare the ground for the reception of young plants by trenching and incorporating plenty of well decayed manure, particularly under, and with the soil below the root level, for Raspberries revel in plenty of rich food of the farmyard type. The soil cannot be too rich, deep and moist. The vale of Evesham and most of the land between Bromsgrove and Gloucester apparently contains soil admirably suited for Raspberries, just as that around Wisbech and many parts of Lincolnshire does for Potatoes.

Although Raspberries will live in clay soil, they detest it, and the growth is puny and weak, unless special preparation is made for them. All our improved varieties have been raised from seed, and our fruit specialists deserve our thanks for the raising of several excellent varieties, if not larger than some of the older varieties, they have other meritorious qualities, such as later fruiting, and, I might say, continuous fruiting from July till November.

The root buds must be left intact and protected, next year. As to distance apart, that varies according to the nature of the soil, from 4 feet to 6 feet between the rows and 2 feet to 4 feet between the plants, but a yard between the stools and 4 feet between the rows are good average distances. In ordinary planting, three suckers should be planted together, about 9 inches to a foot apart, so as to form a triangle. Plant rather deeply, and unless the canes are very fine indeed, it is better to cut the plants down to within 6 inches of the soil shortly after growth starts in the spring. This treatment concentrates the energy of the more active roots into production of fine bearing canes for the following season. In the case of specially strong canes, these may be left a foot or more long, or even be allowed to carry a little fruit the first year.

Raspberries require no pruning in the sense of that given to other fruit trees. The pruning, if I may call it so, consists in the cutting out of the old canes down to the base of the stool as soon as the fruit has been gathered, and the thinning of the new canes to from three to five.

Towards autumn, these may be topped, but this is by no means essential, the spring being equally good, if not better, for this operation, as the growth acts somewhat as a protection during frosty weather. A deep tilth of at least a yard, plenty of manure and an annual top-dressing of the latter after growth has started, cannot fail to produce good results.

Moreton House, Eastbourne. GEO. BURROWS.

Mr. A. W. Hill.—We understand that Mr. A. W. Hill, F.R.S., Assistant Director of the Royal Botanic Gardens, Kew, sailed on January 20 by the *Benue* on a mission for the Government to the Cameroons and Nigeria.

Seeds for early Sowing under Glass.

BEST TOMATOES (BIDE'S RECRUIT).—We have grown this alongside other varieties for market work, and consider it the heaviest bearer of all, while the quality is first rate. 6d. and 1- per pkt.

CARTER'S SUNRISE, a fine variety carrying long regular bunches of medium-sized fruit, colour and flavour not surpassed by any variety. 3d. and 6d. per pkt.

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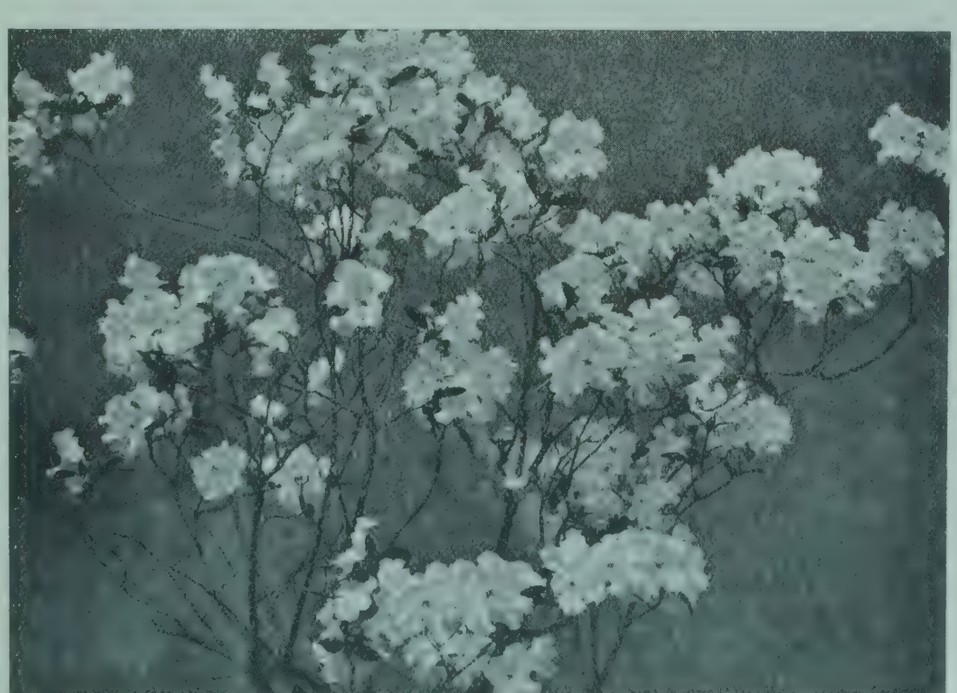
NOTES OF THE WEEK

[February 12, 1921.

FELLOWS of the Royal Horticultural Society are to be congratulated on the new decision, as announced in the Book of Arrangements just issued, that the fortnightly shows during the summer months at the Hall in Vincent Square are to be extended to a second day, so that they will be open on the Wednesday following each usual Tuesday. For some years past the shows have been inconveniently crowded, and, as the number of Fellows has increased by some 1,500 during the last twelvemonth, it is evident that the attendance must still more greatly exceed the accommodation. It is to be expected that many of the Fellows, who wish for a more leisurely and convenient examination of the many good things provided, will choose the second day rather than the first for their visit. Such a distribution of the attendance will not only be a matter of greater ease and comfort to the visitors, but we also think will be an advantage to the trade exhibitors. Another wise decision announced in the same publication is to the effect that in future the judging of vegetables will be rather in the direction of what is best for the table than for mere size and appearance. A border plant and one for food should be judged from quite different stand-points; it has to be remembered that the purpose of vegetables is to be eaten rather than to be looked at, and though it is pleasant to see the grand things that come to the shows, yet it is certainly of more importance that they should prove to be of the best size and quality for the table rather than that they should be handsome specimens demonstrating the extreme possibilities of skilful cultivation.

Primulas and Cyclamen as Winter Flowers.—Greenhouse flowers are particularly welcome in January and February, and that is one reason why Primulas and Cyclamen, described on pages 78 and 79 in this issue, are becoming increasingly popular. The greenhouse and conservatory provide winter room plants that bring consolation to the flower-lover. With this thought in mind it is our intention to follow this article by others on the cultivation of these flowers, at seasons when the

Rhododendron emasculum.—This is the very appropriate name of a hybrid Rhododendron with all, or nearly all, the stamens aborted. In many flowers the presence of the stamens is an attractive character, but in the subject of this note their absence serves to show to greater advantage the rich colouring of the delicate mauve tinted blossoms. The parentage of this beautiful Rhododendron can only be surmised from the fact that it resembles R. præcox, which is a hybrid between R. ciliatum crossed with R. dauricum. R. ciliatum has been used fairly extensively by Rhododendron breeders; possibly R. emasculum may be the result of making the reverse cross, from the fact that one of its names is R. dauricum var. sempervirens. In the Coombe Wood Nursery at Kingston Hill it was formerly cultivated as R. amœnum, but when Azaleas were included under Rhododendrons this name rightly belonged to the plant so widely grown as Azalea amœna. R. emasculum is an evergreen bush with flowers 1 inch to 1½ inches across, very freely borne towards the end of March and during early April. Naturally flowering early, it is a very valuable plant for forcing, the blossoms responding readily during February to the heat of an ordinary greenhouse. Of the two, the shade lighter colouring of the light mauve flowers under glass is the most



RHODODENDRON EMASCULUM, A HYBRID WITHOUT STAMENS, NOW FLOWERING AT KEW.

it is a most effective and valuable shade of colour. Cuttings from plants grown under glass root readily under a bell-glass in early summer.

Wanted—a Purple Wallflower.—Among the several fine colourings that have of late years been produced in Wallflowers there is one of which they are evidently capable, that is much wanted, but that as yet has escaped the favourable notice of raisers. This is a really good purple. The existing old purple is already too good a thing to be neglected in careful spring gardening, but in working from it growers seem to have given all their attention to driving it into reddish colourings. May we not hope for a rich purple tending rather towards a violet colour, such as would so well accompany Tulips Erguste, Rev. Ewbank and Blue Flag. There would seem to be no reason why the purple Wallflower should not be as easily led in the direction of cool colouring as in that of hot. A fixed strain of such a tint would be of great value.

Star Dahlias.—The new race of single Dahlias, with narrow, pointed petals which give the flower the appearance of a star, and of which seed was only recently obtainable, are an ideal border flower, excellent for cutting purposes. They are quite free of that stiff appearance that militates so greatly against many varieties when cut, and yet they have sufficient stamina in the stem to support themselves, so that the flowers are well displayed. In medium-sized vases on the table they are excellent and retain their freshness for an unusually long time. Seeds can be sown in early spring, or plants procured in May for planting in the open ground. Those who have raised seedlings may look forward to a most interesting time when these show their buds, for all Dahlias are sportive plants and one can never tell, among a batch of seedlings, what surprises are in store

FORTHCOMING EVENTS

February 14.—United Horticultural Benefit and Provident Society's Meeting. Bath Gardeners' Debating Society's Meeting.

February 22.—Royal Horticultural

CORRESPONDENCE

TULIPA SAXATILIS IN FULL SUN.

I WAS very interested in what Mr. Foy wrote about this Tulip (page 41), and his experience would suggest that it would do best planted in a sunny position on rockwork where it could get a good roasting in summer. It is pleasing to note that such a beautiful little Tulip as saxatilis can be so easily naturalised.—PETER R. BARR.

POT MARIGOLDS.

MR. WILLIAM CUTHBERTSON received reliable information when his daughter brought him news regarding the Calendula. Not only is this flower an important item in California, but also throughout the United States. It is grown in enormous quantities under glass for winter and spring flowering, and in the open for bloom prior to the real hot weather. For the small grower it is a valuable plant as it will run through the winter with less heat than anything else. That it is profitable goes without saying; its colour makes it a ready seller, and at this time (January) it sells in the markets at £1 or more 100 blooms. The flowers are certainly fine; disbudding is followed and the stems are 12 inches or more in length. That the strains grown have an affinity with that sent by Mr. Cuthbertson I have no doubt at all. It is only in recent years that Orange King and Lemon Queen have loomed so largely, but it is hardly to be expected that the source of origin would be recognised for any length of time. There are some wonderful people, especially in the West, who, in a year or two, can originate flowers surpassing anything which European workers produced in 100 years. People who know plants, however, are not led away by the tall talk of these miracle men, but as about 100,000,000 of the 105,000,000 population are more or less ignorant of plant development, it follows that only those who shout loudest about their products attract public attention. As might be expected from one of my temperament, some of these wonder-workers have fallen foul of me; indeed, one even went so far as to threaten me with dire penalties, but presumably thought better of it when he found me ready and willing. —T. A. W., *New Jersey*.

THE TOAD LILIES OR TRICYRTIS.

AMONG the many plants the writer has passed through his hands in order to become acquainted with their characters and to retain only what were considered the best were the species of Tricyrtis, well named the "Toad Lily," because of the curious, rather than beautiful, flowers presented by the different members of the genus. They are very late summer or autumn blooming plants, which oft-times dally so late in northern gardens that frost overtakes them before their flowers can open. All are of much the same character. They send up stems about a foot high, clad thinly with rather hairy dark green leaves, and from the axils of these there appear the blooms, which are Lily-like in their general appearance, but singularly formed and of rather weird colouring. All are practically dull pink, dotted with deep purple in a curious fashion on the wax-like divisions of the flower. They like a rather moist, warm place (the warmth to induce them to flower in good time) and a good rich soil. Of those in cultivation T. hirta and T. macropoda are the best known, and the latter is probably the better of the two, especially in the colder districts, as it blooms somewhat later. T. hirta, which flowers too late to be of any value in the north. A choice species, also from Japan, where it grows in woodlands, is the little one known as T. Hototogisu, an unpronounceable name for most folks. It is rare in this country, but is desirable for the sake of its pleasing habit of growth, more graceful than that of the others.—S. ARNOTT, *Dumfries*.

SHOULD RASPBERRY CANES BE TIPPED?

IN THE GARDEN, January 29, under the heading of "Gardening of the Week," Mr. H. Turner says, "Points of canes of summer varieties (Raspberries) may now be tipped." In my experience it is far better to leave the young canes at full length, as many of the finest fruits are produced at the tips. When invited to give advice on the point I always recommend that the young wood should be left at full length, because I honestly believe it to be the most satisfactory method of growing Raspberries. At the same time I am open to conviction and should be glad if Mr. Turner could spare time to give his reasons for tipping the canes. It is really a most interesting point and one in which amateur gardeners are greatly interested.—F. W. MILES, *Ayot St. Lawrence, Herts*.

AUTUMN RASPBERRIES.

IT is surprising that so few people grow the late-fruiting Raspberries. Nothing is more satisfactory, for they come in after all other bush fruits are over and are at their best in mid-September, and if the autumn is a mild one they go on through October, as they did this last year. They do best in the dampest part of the garden where it is not very dry, but they are not particular as to position or soil. They should be cut down to within 6 inches of the base in April. The most prolific we find in our soil is Queen Alexandra, but the largest fruit is Mervielle de Rouge. The canes increase rapidly, so require thinning and replanting about every three years or oftener. On a light soil (as here) they are more satisfactory than the summer Raspberries and, being larger fruit, they make splendid preserves, either bottled or as jam.—G. H. T., *Cobham*.

BOTANY FROM A TRAIN.

I WAS quite in sympathy with "Somers" when he discussed, or discoursed upon, the wild flowers he observed while riding upon a char-à-bancs, in THE GARDEN of December 25 last. I thought he would have followed it up with botany from the train, which I have found an excellent pastime on many a long journey. It was a delightful surprise to see how the Red Valerian (Centranthus ruber) had taken possession of a railway cutting near Chepstow; also the chalky rocks at Guildford station, and the chalk cuttings between Maidstone and Ashford. The same day I passed Chepstow I spotted the Oxford Ragwort (Senecio squalidus) at Oxford. Since then I noted its advent at Reading; now it has spread all over the Great Western Railway system. It is easy to account for the dispersal of the plant from Oxford. The railway carriages and wagons whip up the flying seeds and carry them along to drop them later. During similar journeys I have seen Snapdragons in the chalky cuttings at Carshalton, Coulsdon and Maidstone. The Marsh Mallow in the marshes at Appledor, Rye and Winchelsea was a fine sight as I sped from Anaphalis margaritacea also delighted me as the train rolled down the hillsides to Ystalifera and Portardawe, between Colbren Junction and Swansea. The way this plant had taken possession of the railway banks, and scoria or slag from the smelting furnaces in the valley was a revelation. The railway banks at Friockheim, Forfarshire, were clothed in a similar way with Campanula rapunculoides. With the exception of Marsh Mallows, all the above are exotics, cultivated in gardens, but have become naturalised in this country, each selecting its own suitable situation to grow.—HORTULANUS.

BLUE LEGS.

IN answer to Mr. Clarence Elliott's query (page 53), I do not suppose Gloucestershire can lay claim to the exclusive production of Agaricus personatus, though the county seems to have something of a monopoly in it, for Dr. Cooke in his book on Fungi says that Lepista personata (included with the Agarics by Fries) is not uncommon in Northern Europe and America, and that he had heard of its being regularly sent to Covent Garden, but he adds that during many years residence in London he had never seen it. Dr. Cooke damns this Mushroom with faint praise, considering it "passable when broiled"; but tastes vary very much. The correspondence in the columns of THE GARDEN some time ago on "Flavour in Tomatoes" conclusively proved that some of quite the nicest people, even authorities in gastronomy, keenly appreciated the "particularly nasty taste" of the old ribbed Tomato, so perhaps Blue Legs may yet come to the front; certainly they are eaten by hundreds of people without any ill effects. It seems worth the attention of those learned in fungus lore to enquire why, when Agaricus campestris and A. arvensis were scarcely to be seen all through the season, that a species so nearly allied should be so very plentiful. One morning I met two women who had been Mushrooming in the fields between Cheltenham and Coombe Hill, and they were swinging between them a market pot basket (five pecks) filled with fine Mushrooms, all of A. personatus gathered in a very short time.—J. P. *Cheltenham*.

I WAS interested to read the notes upon these fungi by Mr. Clarence Elliott in THE GARDEN, January 29, page 53. In Notts and Lincolnshire Blue Legs—or, as they are called locally, "Blewits,' "Bluecaps" or "Bluestalks"—grow commonly in the meadows by the River Trent. A few are eaten by the locals, but many are gathered by the Sheffield anglers, who frequent the lower Trent in numbers. I rather fancy the foregoing local names were used as a collective term for several species. M. C. Cooke, in "British Edible Fungi," calls Bluecaps, Tricholoma (Agaricus) nuda; Blewits, T. Personata; and St. George's Mushrooms, T. Gambosa. The same writer says that a most successful method of cooking them is to place a lump of butter in the frying-pan, with a sufficiency of gravy or milk, and a little curry powder; fry for seven or eight minutes, and then throw in the sliced agaric, and fry gently for a further ten minutes. Serve up quickly on toast. With regard to Boletus Edulis, this is generally common in woods. Cooke observes that for culinary purposes the stems should be discarded, together with the porous portion under the cap. He also notes that "when cut through, or broken, the flesh does *not* immediately, or at any time, become of a deep blue. It will be borne in mind that all the Boleti which change colour to a bluish

some are strongly poisonous." A respected member of the Woolhope Club, who lived near my old home, was a great authority on fungi, and his collie dog always appeared depressed during the periodical "fungus feasts." I understand the reason now. On the whole, perhaps, for the layman, the following couplet is apposite:

"Fungi cause internal twists
Leave them to Mycologists."

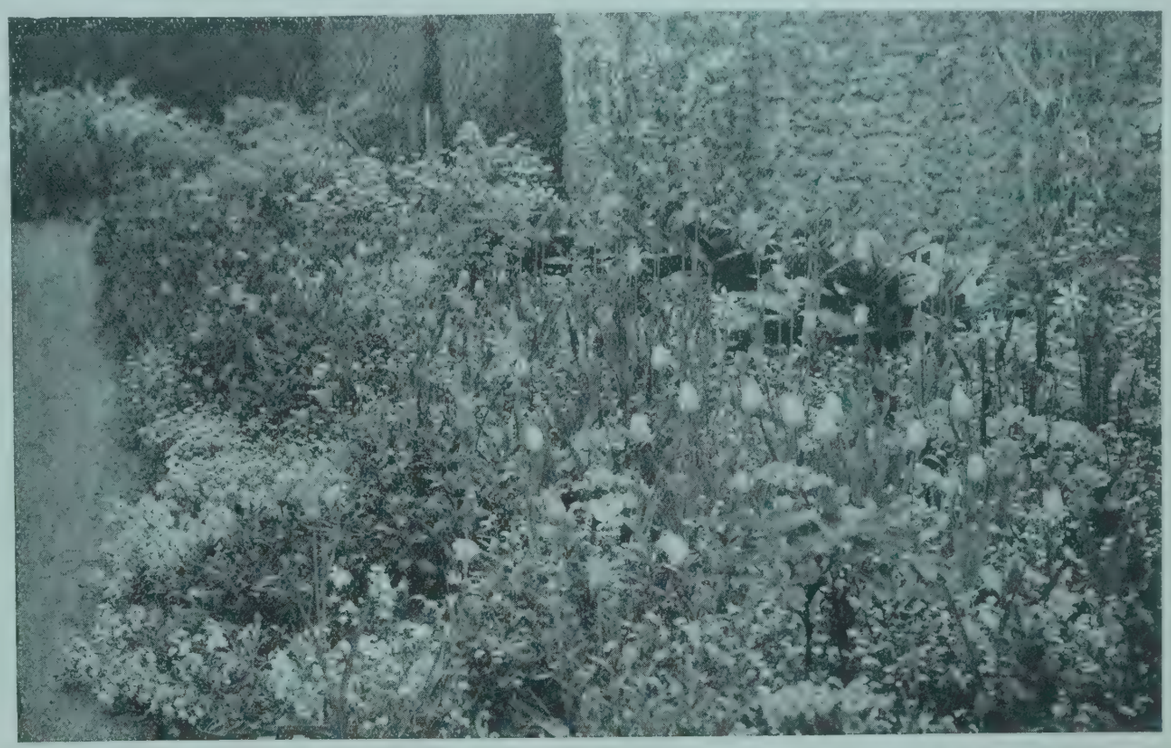
—G. BERTRAM KERSHAW, *Westminster, S.W.*

THE WORCESTER BERRY.

IN THE GARDEN, December 11, page 607, a new berry is described. This is called the Worcester Berry and is said to be the result of a cross between the Gooseberry and Black Currant. It may, perhaps, be of interest to readers to know that the Flowering Currant and Wild Gooseberry sometimes cross in a wild state. The Wild Flowering Currant grows everywhere in the woods of Vancouver Island, and the fuchsia-flowering Gooseberry makes large bushes 6 feet high, generally bearing large crops of berries, which, although very large, are not considered edible. Several years ago I noticed a Currant bush in the woods that did not seem exactly like the Flowering Currant, although it bore wood of the same colour. On examining it I saw it had thorns and several other characteristics of the Gooseberry, so supposed it to be a hybrid between the Wild Currant and Gooseberry. I noticed the same bush later in the season. The fruits were borne in the same manner as Red Currants, were small, black, marked like a Gooseberry and tasted like a Gooseberry. The leaves were small and like the leaves of cultivated Gooseberries. The wood was coloured like Flowering Currant wood and bore thorns. I kept the bush under observation for several years until two years ago, and considered it to be interesting, but not of any value, as the crops of fruit are very light and the berries no larger than Currants. The fruit of the Wild Gooseberry here is red, and the Flowering Currant light blue, and both much larger than the hybrid; but there is a garden a quarter of a mile away from the place, where Currants and Gooseberries are grown so it might be the result of the crossing of some of the cultivated fruit with the wild. I was rather surprised to learn that the Washington Gage was a shy bearer. There is a tree near Courchan Station, that must be over thirty years old, in a garden that was made by some early settler, and although it is not pruned or sprayed, the crop for the last two years was very heavy. I noticed that the fruit was allowed to fall this season. The owner said it did not pay to pick the fruit, as Plums were so plentiful and, as the Washington Gage does not keep its colour when cooked, it was not so easy to sell as other kinds.—T. S., *Vancouver Island, British Columbia.*

A BORDER OF BULBS AND ANNUALS

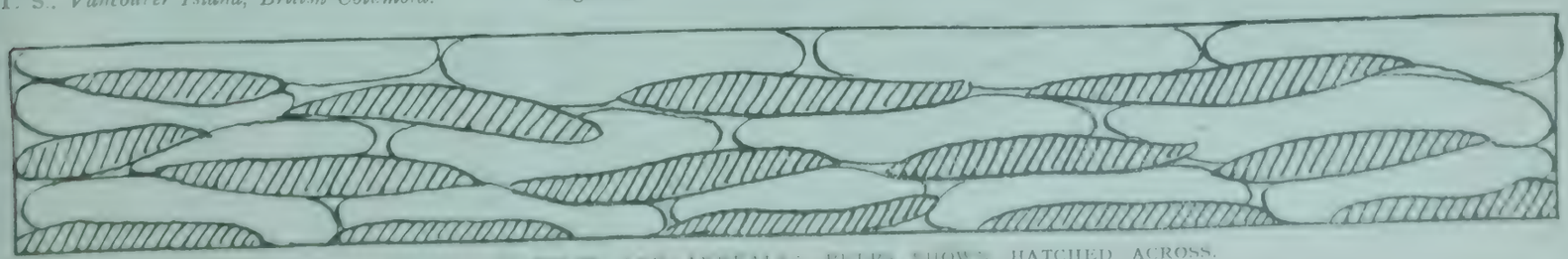
A LETTER comes to THE GARDEN asking for advice as to the best annuals to grow over bulbs, a question of some interest, to which we hope the following answer may be of use. It is obvious that it is a case in which annuals that make large growth, with corresponding greedy roots, will be out of place, but there are quite enough kinds with roots of moderate strength that should not rob the bulbs of more nourishment than can be easily restored by a nutritive mulch of good leaf mould.



PALE YELLOW TULIPS AND A GENERAL CARPETING OF DOUBLE WHITE ARABIS AND MYOSOTIS.

As the annuals would not be sown till March or April, when the leaves of the bulbs would still be showing, the sowing will naturally take place in any spaces that may occur between the groups of bulbs. But if the bulb border is being planned from the beginning, with the intention of having annuals to follow, it will be best done in some such way as is suggested by the accompanying diagram.

Not bulbs only, but all border plants, look best when planted in long shaped drifts rather than in condensed or roundish patches. In the plan, the groups hatched across show the bulbs, and the white spaces the annuals; these will also show as pleasant drifts, and, as the foliage of the bulbs dies off, will cover the whole space. Some of the annuals which are naturally of a flat growing, spreading habit, such as Nemophila, Platystemon and Limnanthes, are of special value in the middle spaces; others of minute growth—Grammanthes, Sedum cœruleum, Saxifraga Cymbalaria, Kœniga, Virginian Stock and Ionopsidium will come well close to the path. Others that will be found useful are, in blue and bluish colourings, Didiscus, Asperula azurea, Nigella, Anagallis, Convolvulus minor; in white, Argemone Jacobæa (white var.), Gypsophila elegans, Linaria maroccana (white var.), Omphalodes linifolia; in yellow, Dwarf Nasturtiums and Eschscholzias; in pink and red, Saponaria, Cacalia, Papaver glaucum and P. umbrosum. The pretty white and purple Collinsia bicolor should also not be forgotten.



BORDER OF BULBS AND ANNUALS: BULBS SHOWN HATCHED ACROSS.

Yellow Fumitory for Sunny Walls

WELL circumstanced, it is surprising how effective even a common-place subject appears when wedded to a suitable environment. The above named (Corydalis lutea) is a case in point. Pleasing at all times by reason of an elegant grace and fern-like habit unsurpassed by any of its tribe, it is particularly so in the spring when the tender, glaucous green leaves appear in all their freshness, in instances especially where pruning or cutting back to the tuft was earlier indulged in, giving to the plant an opportunity of gowning itself anew unfettered and unmarred by the garb it donned just a year ago. Best of all elegant-leaved subjects for dry and sunny walls and those high-up crevices or crannies in rock gardens which, but for some such plant, must ever remain ungarnished, it is well worth this little attention annually if we would have it at its best. Away high up in the Cotswolds we have seen it, unkempt and uncared for, garnishing the stone wall fences well and quite in harmony with its surroundings; while in kept gardens a routine principle may be applied with equally good results.

Plants for Sunny Limestone Rock Gardens

It is not every plant that will flourish in hot positions in limestone rock gardens, and those who contemplate planting will find this article full of helpful suggestions

FOR rock gardens constructed of limestone, quite a number of plants are not only suitable, but will thrive exceptionally well. Some, however, do not appreciate full sun when in such a situation, but in the following notes I endeavour to give some information regarding the plants which will not only grow but will flourish in sunny, hot positions in limestone rock gardens. When first planted they should be carefully watered to prevent them from being burned-up before they have become established and, if planted in sunny weather, a little shade of some kind is necessary for a time and this will, at least, save the lives of many of the plants. Many more plants than those mentioned will flourish, but I have endeavoured to give a selection of representative flowers, rather than a long, complete list.

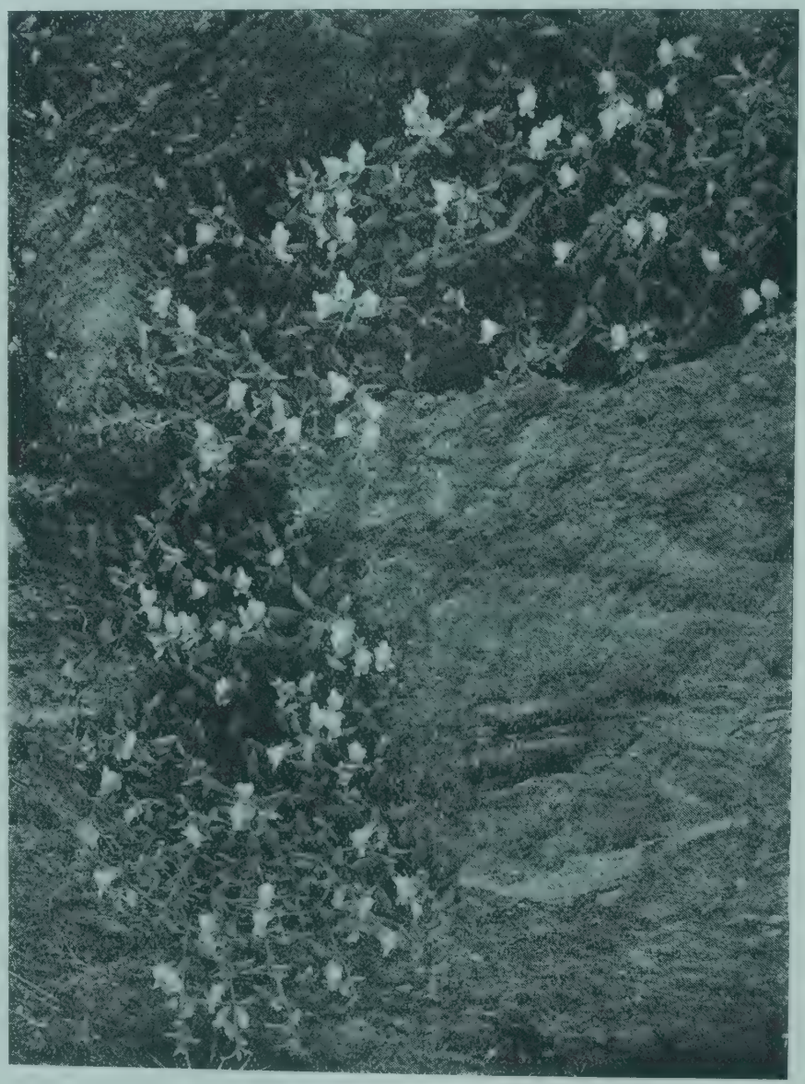
Not all of the Acænas, or New Zealand Burrs, will be happy in such a place, but the silvery A. argentea is an exception and will be useful for carpeting. This is the place to try the delightful Acantholimon venustum, the refined sister flower of A. glumaceum, and more difficult to cultivate than that more popular flower. Some of the Achilleas, especially the silvery-leaved ones, are in their element in such a situation, and some which may be essayed with success are A. rupestris, A. argentea, and A. umbellata. The delightful Æthionemas, or Lebanon Candytufts, afford us some charming flowers for our sunny limestone rock garden. A selection might include the favourite Æ. grandiflorum, Æ. coridifolium, and the distinct Æ. schistosum. Of such value are the Alyssums, although some of them, such as A. saxatile, may be a shade too coarse for small rock gardens. Even these, however, may have the pretty A. alpestre and the nice little A. serpyllifolium, with yellow flowers.

Of the Androsaces several may be suggested, but A. foliosa and A. sarmentosa do not give the same trouble as do a considerable number of the rarer and newer species. Anthemis Biebersteiniana may represent the Anthemises; and Anthyllis montana this genus. Such a rock garden is an excellent position for the two little Snapdragons called Antirrhinum Asarina and A. glutinosum. The distinct Astragalus Tragacantha will give character to the rock garden and an Aubrietia or two will yield their welcome quota of colour in the spring. It almost goes without saying that the Cerastiums, though coarse, enjoy such a place. C. Biebersteinii is a stronger grower than the more common C. tomentosum. The bright Cheiranthus Allionii may represent the Wallflowers. Where the district is mild enough, two or three of the Cistuses, or Rock Roses, might be added. C. albidus and C. formosus will be much appreciated, as, indeed, would almost any of these favourite shrubs. Coronilla iberica is quite a good yellow-flowered plant. It is almost superfluous to say that a few of the Dianthuses should have a place.

A really good form of Dianthus cæsius, with some representatives of others with glaucous leaves and a proportion of the single varieties of D. plumarius are valuable. Draba Mawii may represent these little plants, and Edraianthus pumilionum might be suggested as showing the beauty of these choice plants for our rock gardens. Of Erodiums there are several, and such as E. guttatum may be chosen to adorn the place. For the rougher parts, Genista pilosa may be secured. We may represent the élite of the Geraniums by such species as G. argenteum, G. cinereum and G. Traversii—the last is the least hardy. Sun Roses would give us a big choice, and we may remember here the high claims of Helianthemum lunulatum for a hot limestone rock garden. Linum salsoloides is a good Flax for our purpose, and in Lithospermum Gastoni we have a specially uncommon Gromwell which craves such a position. The fragrant Micromerias, such as M. Piperella, should not be forgotten, and lovers of the curious might try Opuntia Rafinesquii. If in a wet district it is prudent to cover from rain during winter. The pretty Oxytropis campestris may be given a place, and so may that hardy Pelargonium, with the cumbrous name of P. endlicherianum. The spring Phloxes of the subulata section supply us with a charming set of flowers, and the curious Phyteuma comosum may have a good chance if the slugs will leave it alone, which is doubtful. Potentilla valderia is a pretty silvery subject. Of the hardy Primulas there are several of the Auricula type which are grateful for our limestone rock garden conditions and P. marginata may be named as a beauty in such a spot. The silvery Saxifrages call for mention, but they would naturally appeal to owners of such a rock garden. Suffice it to say that most of the Aizoon section are gems for our objective. Sedums, also, delight in such conditions, and so do most of the Sempervivums, but it may be mentioned that it is worth while giving up a good place for the sake of those with cobweb-like tomentum, such, for example, as S. arachnoideum and S. Laggeri.

I will conclude this brief summary of some good plants for such positions by mentioning the delightful little Veronica saxatilis and its white variety, V. s. alba.

S. ARNOTT.



A ROCK GARDEN SNAPDRAGON (ANTIRRHINUM GLUTINOSUM).

Raising East Lothian Stocks

THIS Stock, which, when well grown, surpasses in beauty and utility all other sections of this popular flower, is not nearly so often met with as its merits demand. In all likelihood too late sowing is the commonest cause of failure, while the little extra trouble it requires in the raising of the plants also militates against its universal cultivation.

To ensure fine plants fit for planting out early in May, the seed should be sown early in February, in pans or small boxes of light soil, and set in a temperature of about 55°. Sow thinly, so as to reduce the chance of damping-off to a minimum. As soon as germination takes place, get the receptacles raised up close to the roof glass, and if the weather be very sunny a little shade will do no harm at first. As soon as fit to handle, the little plants should be pricked off into boxes of good soil. Water carefully, and shade from all sunshine for a week. As growth starts again, gradually inure the plants to all possible light, and give air in abundance, but avoid cold draughts. After the plants are well established, and as weather conditions improve, shift the boxes to a cold frame, keeping close for a day or two, afterwards gradually admitting abundance of air. The plants soon show signs of distress should the soil get dry, but equally resent overwatering.

By the end of April the plants will be in a fit state for planting out in their flowering quarters. They must then be well hardened off, and the planting accomplished during showery or dull weather, if possible. Extra care should be taken in lifting the plants, so as to retain a good ball of soil round the roots. Plant firmly, allowing about 15 inches between the plants. A thorough soaking of water must be given if the soil is at all dry. Little further is necessary, except a weekly run through with a Dutch hoe to loosen

and an occasional soaking of water during dry weather

This Stock must have rich, deeply-tilled ground if it is to give of its best, and a high-class strain of seed is, of course, a necessity. Plants that fail to flower well may be lifted in September, placed in 7-inch pots, and wintered in a cool house. These will be found to give a glorious display in the conservatory in spring.

Preston House Gardens, Linlithgow. C. BLAIR.

STARTING BEGONIA TUBERS

The advantages of beginning early and the right food procedure.

THE gorgeous tuberous Begonias, with their bold, massive, brilliantly coloured flowers, are often not started into growth sufficiently early, with the result that we are well into July before they are flowering freely and the plants are still covered with buds in autumn. If used for bedding this means that the earlier part of the season is wasted, as well as the unopened buds which are destroyed by autumn frosts. Under glass the season may not be shortened because the plants can be protected, and continue flowering gaily, but they are then often occupying space on the staging which is wanted for Primulas, Chrysanthemums or various cuttings, and are thus overlapping their season of usefulness. By earlier starting this is avoided, as they commence to flower in June and finish correspondingly earlier. The tubers should now be taken out of store and examined to see that they are perfectly sound and spread on shallow wooden boxes filled with leaf-mould or coconut fibre stood in a temperature of 55° to 65°. Stronger heat than this is not desirable, as it induces too rapid growth, which is made at the expense of vigour. Keep the soil thoroughly damp, but never wet, and spray lightly overhead each day. This spraying is of the greatest assistance in promoting healthy, rapid growth, but must not be overdone. It will be noticed that the majority of the tubers are slightly concave at the top, and if spraying is too generously done the water collects in this like a basin and is apt to cause rotting. Tiny pink sprouts will soon appear, and from this time onwards they must be kept always in a good light and sufficiently moist. Grow them on until two or three leaves have been made without disturbance; it is not desirable to interfere with them too soon, but at the same time, they should not be left so long that the leaves touch each other or the roots become entangled with those of their neighbours. Prepare the compost for potting them some time previously and turn the heap over several times to ensure that it is thoroughly mixed. Begonias detest a hard, close soil; one which contains a fair share of humus and is light and rich, so as to be easily permeable by the masses of roots, suiting them best. Two parts of yellow loam with plenty of fibre in it, well pulled to pieces, to which is added one part of sweet, flaky Oak or Beech leaf mould, and a 3-inch potful of soot to each bushel affords a most satisfactory medium. The addition of a moderate amount of old hot-bed manure increases its fertility, but avoid sand, or trouble with the Begonia mite is pretty sure to occur. The size of the pots used varies with the size of the tuber but should not be over large, and the pots must be scrupulously clean and well drained. Fill them lightly with soil and rap once on the potting bench to settle it, then lift your tubers from the boxes in which they have been started and place in the centre of the pot. Damage the roots as little as possible when lifting from the boxes. The roots take a firm grip of the leaf-mould or fibre, and it is an easy matter to lift them with [illegible] will in with soil round the tubers so that these are only just covered and rap once or twice to settle the soil round them. Very little pressure from the fingers is needed on the surface, while each plant should be lightly watered after completion. A rather close, humid atmosphere is the best, with a temperature between 50° and 65°, keeping this as even as possible both by night as well as day. As the spring advances care will be required to protect them from bright sunlight, for while they need all the light possible, they resent scorching sunlight, which soon has an injurious effect on the foliage. All the tubers in a box do not start away evenly, and it is better to go over them once or twice and remove and pot the more forward examples, allowing the others to remain until ready. After potting, arrange the pots close together on the staging—preferably an ash or shingle covered one—and grow on steadily, spacing out more as growth progresses. When the colour of the buds can be seen, feeding with weak liquid manure once a week should be commenced. As the buds develop, a more airy and a drier atmosphere must be given or they will drop badly. Begonias demand very careful and regular watering to do them justice. If a flower-stem is examined it will be noticed that there is a joint about 1½ inches or 2 inches below the neck, and it is at this point that the trouble with bud-dropping lies. When the soil has become too dry and is watered this is at once absorbed by the roots and causes a corresponding rush of sap through the stems with the result that the buds are literally forced off by the pressure. Never overwater, therefore, and never let them become dust dry. Sufficient to completely soak the ball right through when required, then no more until the surface commences to dry. For be[illegible] out in the open air careful hardening off is essential. Give them increasing quantities of air as the time for planting out approaches, and during their final week transfer to a cold frame. Less shading, too, should be given to plants that are to be planted out or the foliage will suffer severely and the appearance of the bed be spoiled for some weeks. Autumn should see a considerable reduction in the amount of water applied to the roots of plants under glass so as to induce them to go to rest, but this must on no account be hurried. Wait until the stems part readily from the tubers before attempting to store them, which should be done in dry soil. Plants in the open ground should remain until cut down by the first severe frost and must then at once be lifted and spread out in a dry, cool, frost-proof place until the stems fall away from the tubers, and these can be cleaned and packed away.

H. W. CANNING WRIGHT.

A PLEASING COMPANIONSHIP, TUBEROUS BEGONIAS AND FUCHSIAS.

THE BEGONIA MITE

THIS minute creature is one of the worst pests the gardener has to fight against and one that is apt to get well entrenched before its presence is detected. While named the Begonia mite, it, unfortunately, does not confine its attention to that plant, but is very destructive to the Cyclamen and Gloxinia. While its ravages among the tuberous Begonias are always annoying, it is considerably worse when the fibrous-rooted section of these fine plants is attacked.

The main reasons for an attack are dryness of soil and atmosphere and a want of care in shading the plants. A too generous supply of sand in the potting soil is also a contributory cause, but in some seasons no amount of care is sufficient to ward off this pest. It is always well to keep an observant eye on all classes of Begonias, as well as Cyclamens and Gloxinias, and immediately the first sign of attack is observed apply a remedy. Vaporising on three alternate nights, as a rule, will clear the plants if taken in time and an occasional further dose of the same will keep all safe. In bad cases it is well to nip off and burn the worst of the affected leaves, and then to dip the plants in some approved insecti[illegible]

GAY GREENHOUSES AND BRIGHTER HOMES IN WINTER

Everyone should Study this Article and all who can should see the Primulas and Cyclamen now Flowering at Reading.

THE CYCLAMEN AT THEIR BEST. MANY VARIETIES ARE REMARKABLE FOR THEIR FRAGRANCE.

AMID the gardening pleasures of the year none, perhaps, is greater than that afforded by a pilgrimage to Reading to see the Primulas and Cyclamen so extensively grown by Messrs. Sutton and Sons; and it is not a pleasure alone, it is a feast for the eye and a refreshment for the mind. To those who have grown grey in horticulture, who can bring into the mental vision the representatives of the races named of forty or more years ago, comparing them, as it were, with those performing that duty to-day, there is something more than this: an interest as profound as the progress is remarkable. Judged by the latter, who shall prophesy the developments of these flowers a like number of decades hence? Who, for example, forty years ago had dreamed of stellata Primulas, their wondrous flower pyramids, colour range, elegant habit or high decorative ornament as we know these to-day? Or who in the days when Chiswick Red played a prominent part among the reds ever thought of an Etna, a crimson of an intensity unknown in sinensis Primulas before, handsome and surpassingly rich, and for size, colour and high ornament well away over the heads of Brilliant King and Crimson King, the reigning monarchs of the rich red throne hitherto? Etna, because more richly endowed, is calculated to play a better part than they, to shed greater lustre and to illumine a page in Primula history that the older sorts in their day never reached. In fine, Etna is a great plant, its velvety crimson colour also directly responsible, apparently, for a flower substance that is unmistakable; and at home here the growing patch of it, seen at its best on a clear, bright January day, impelled admiration. The crimson in its blood too, has invaded every part of the plant, the darkened stems and leaves but a fitting accompaniment to such sumptuous colouring. And Etna is not the end; rather is it but a stage in a great advance. Already, indeed, others are appearing. Etnas of intenser eye colouring; others done, as it were, in crimson and gold—a glorious combine—anon, those having tawny or ferruginous eyes rimmed with gold. Who shall say where these may lead? None, perhaps, with certainty, though the intelligent cross-breeder is not to-day looking through a glass darkly. In the blue-flowered set Oxford Blue — the nearest approach to a true blue—is a marked advance, displacing The Czar and Reading Blue, which hitherto held highest rank. Apart from flower excellence, it is also endowed with greater vigour and, admirably well constituted, makes a finer plant than either. The rank and file are a thing apart; the measure of their cultivation here the measure obviously of their popularity. A set of stellata forms which all should grow include Coral Pink (Fern-leaved, blue), Queen Alexandra (white) and Ruby (rich in colour and shapely withal). All are of elegant bearing and free. Giant White, which has enormous trusses and monster flowers, occurs with both dark and light foliage and, like Giant Pink and Giant Crimson, is indispensable. Of this set, that with pink flowers is supremely beautiful. In all, the trusses are well up. Snowdrift, Fern-leaved, is one of the earliest to flower and valuable on that account. And there are others.

PRIMULA STELLATA.

Turning to the Cyclamen, which, like the Primulas, occupy range upon range of the glasshouses, the marks of progress are as numerous as they are important and remarkable. More exacting in their cultural requirements and needing a longer season of growth than the other race under review, few plants demonstrate the skill of the cultivator more than these Cyclamen when brought to perfection; and the perfection attained at Reading is goodly to see. Admired by the best gardeners, it is at once an object lesson for the student and an ideal for those who would excel in their profession. Cyclamen are not only the most ornamental and beautiful of flowering plants; they are cool-loving subjects, too, a fact worth remembering in these days of high-priced fuel. Elbow room; steady, continuous growth; rational conditions and fineness of judgment throughout count high among cultural details. Checks must be checkmated; coddling and the extremes of temperatures—hot and cold — avoided. It is their cultivation in a nutshell; the model examples in their thousands each a replica of its neighbour, yielding the brightest and purest of flowers from corms still crowded with robust buds, the evidences and the outcome of it all.

As to progress, this is most marked, perhaps, in recent years in such varieties as Frilled Pink Pearl and Silver-leaved Salmon, acquisitions both and worthy of universal cultivation. That last named is of the highest possible ornament and beauty, valuable alike for its foliage and flower effects. A plant so doubly endowed and handsome withal is surely worth everybody's while. And then there

CYCLAMEN SALMON QUEEN WITH VARIEGATED FOLIAGE.

White, the greatest and purest of them all; Giant Salmon Pink, of pale salmon tone; Giant Cherry Red, whose lustrous and brilliant flowers have no peer among coloured varieties; Salmon Scarlet, a most gorgeously apparelled sort of exceptional freedom, though slightly less large than some; Giant Crimson. lustrous and rich; Salmon Queen, a wondrous piece of colouring in a perfectly modelled flower; and not least the intensely coloured Vulcan, which from the colour viewpoint is unique amid them all. There are of necessity many more. Those named, however, are the aristocrats, the picture makers of the tribe, each impelling admiration in turn, the great gatherings of them—many thousands of plants are grown—a feast as rare as it is indescribably beautiful, gorgeous or pure. Since the whole of the plants—Primulas and Cyclamen—are cultivated solely for the production of seeds, the extent of their specialisation is not merely a key to popularity or a guarantee of rational treatment; the high excellence of all furnishes the proof that the best only of such things is tolerated and, as such, good enough for all. E. H. JENKINS.

The History of Chrysanthemum Niveus

MR C. BLAIR (page 45), in his list of Chrysanthemums takes my mind back many years by his reference to this old American seedling. It is interesting in these days of rapid change to find that some of the old time favourites are still in cultivation, even so far as Linlithgow. Mr. Blair is well within the mark in saying it must be more than twenty years since Niveus was first sent out. To be exact it is exactly twenty-eight years this spring since Nathan Smith and Son sent it out, together with others long since forgotten. It won several important prizes in the States and John Thorpe predicted it would not be deposed for eight years, as it possessed every

GOOD POTTING SOIL IS ALL-IMPORTANT

How often the potting soil is at fault. These notes are intended as a guide to the preparation of inexpensive composts to be made in advance.

HAVING a surplus of Tomato seedlings last spring, just ready to pot up, I made a present of a number to a friend who possessed a cold frame, the seedlings being large enough for such treatment. At the same time I boxed and potted up fifty from the same pan of seedlings in some beautiful potting soil which I make up each autumn in readiness for the hundred and one things which need it in spring.

When my plants had become some 6 inches high and sturdy stuff at that, I asked my friend how his were faring under identical conditions, and was informed that most of them had damped off, the remainder being only 2 inches high and looking very sickly.

I had a look at those plants, and found that his potting soil was at fault. He had simply filled his pots from the heavy clay soil of his garden, and this, together with excessive watering, naturally caused the death of his seedlings.

Boxes, pans and pots which have to be filled require a specially prepared compost if the little seedlings are to do well. These tiny plants commence life with a very small number of roots, many of which are broken in course of lifting when transplanting. In order to enable the plants to produce a number of fresh roots as quickly as possible a compost is necessary which will allow of a free drainage and at the same time provide nutriment for the new roots to feed upon.

Although there may be garden soil which would serve as potting compost without any further treatment, it would only be such as is met with in very old gardens where years of manuring have charged the earth with an abundance of decayed matter. The average garden soil will not serve the purpose, for it is not rich enough in humus nor is it sufficiently porous. It will make an ideal compost if mixed with other materials which will render it rich and porous, such as old hot-bed material, leaf mould and either flint road scrapings or silver sand, the only difference being that the latter is costly and flint scrapings cheap; both serve the same purpose, namely producing porosity of the soil.

Having only a cold frame, I do not require to prepare a large quantity of compost, so that a large tea-chest serves for the purpose of storage. This is covered with a sheet of galvanised iron in order to prevent the rain from saturating the compost, thereby washing out the fertilising properties, as well as rendering it pasty and unworkable. Provided the potting soil is sufficiently moist when prepared, no further water will be needed from that time until it is required for use in spring, as very little evaporation takes place in the winter months when covered. When required for use it should be sufficiently moist to retain the shape of a ball when squeezed in the hand, but at the same time should easily break down if roughly handled.

I am aware that those who have glasshouses and potting-sheds do not need this advice as they are sure to have heaps of sand, decayed manure and leaf soil in readiness to draw upon and mix as required, and which, being placed under cover, is always ready for use. These notes are intended for the small gardener, who, I am afraid, does not look forward and prepare for the spring as every good gardener does or should. The result being that when seed sowing or pricking off time arrives hasty compost is prepared from unsuitable materia and damping off results.

Where possible, potting composts should be prepared and stacked for a year before use: but in small gardens this is not always possible. However, if it is got ready in the autumn, there will not be much wrong with it in spring.

As I prepare only a small quantity, perhaps my method may interest other small users. My Vegetable Marrows are grown on mounds of turf edging chopped to the size of a Walnut, these being covered with ordinary garden soil to a depth of some 6 inches—and very good Marrows they grow, too! This decayed matter is all carefully collected as soon as the Marrows have finished fruiting. Leaves being plentiful, my cold frame is placed on a heap of these each fall, and provides the necessary leaf mould. Those who can obtain stable manure for the same purpose are fortunate, as this material is invaluable for use in potting mixtures. My friend the roadman deposits sufficient flint road scrapings outside my gate for a very small fee, so that I am able to procure practically all that is required for next to nothing. Road scrapings are very valuable, containing as they do a large proportion of horse droppings, decayed leaves and grass edgings. These materials being to hand, two barrow loads of the Marrow mounds are taken and mixed with one of leaf soil from the frame, and another of road sand, any decayed manure which I can find being also added. These materials are then taken to a brick floor and well mixed by constantly turning with a spade. The mixture is then sifted through a ¼-inch sieve to remove all stones and pieces of stick which may be present. Any lumps of turf which are found should be rubbed through the mesh with a piece of wood, the tiny rootlets being very partial to this decayed turf. The compost is again thoroughly stirred with a spade or fork, and then placed either under cover, or as in my case, in a big box fitted with a lid of some description to prevent the ingress of rain.

In gardens where leather jackets or the tipula grub is prevalent, they are sure to be found in the Marrow bed material; the tipula or daddy-long-legs lays its eggs in the grass and time produces the grubs. Such soil should be sterilised by heating in an oven before use, the same applying to the leaf soil, in which I have often found beautiful fat specimens. One tipula grub can cause no end of damage in a seed-pan, hence the necessity for sterilisation. Should either the soil or leaf mould be infected with the spores of anbury fungus, it is absolutely necessary to sterilise the compost if it is intended to be used for the raising of seedling Brassicas.

When filling boxes or seed pans with such a compost, provide ample drainage by means of holes in the boxes and put a good layer of crocks over them. Press potting soil well home and finally sift a little fine soil over the seeds, this being obtained by use of a small meshed sieve, such as can be obtained at any seedsman's or can be easily constructed at home by knocking out the bottom of a shallow box and nailing on a new bottom of perforated zinc such as is used for the window portion of larders or meat safes. Such a sieve answers admirably for providing the necessary fine soil for covering seeds, while it greatly assists pricking off if a layer is placed on the top of a box of compost as the fine soil falls into the holes and assists root action and at the same time, the pulverised material can be pressed against the stems with the fingers much more easily than if a rougher compost is used. A syringing overhead or the use of a very fine rosed watering can settles the fine soil well round the roots, and the boxes or pans are ready to go into the frame or greenhouse, where they can be relied upon to do well and produce strong healthy plants.

The one failing of amateurs in pricking off is to be too generous with the water. Never water after pricking off unless the pans give a ringing sound when tapped with a stick, or the soil begins to leave the sides when boxes are used.

Great Missenden. CLARENCE PONTING.

THE NEW CAMPANULA TELHAM BEAUTY: FLOWERS LAVENDER BLUE.

Campanula Telham Beauty

THIS beautiful Bellflower was first exhibited at the Holland House Show in 1914. The plant is usually listed as a variety of the Peach-leaved Bellflower, Campanula persicifolia. It is, however, such a plant growers are inclined to consider it a hybrid between C. persicifolia and some other species, possibly C. latiloba (syn. grandis). As the name suggests, this very beautiful hardy perennial originated in the garden of Telham Court, Sussex. Growing from 3 feet to 4 feet high, the stout stems are well furnished with large flowers of a pleasing shade of lavender blue. In addition to its value as a hardy border flower, Telham Beauty is a very showy and useful subject for pot culture in a cool or unheated greenhouse. Treated liberally with rich soil and liquid manure, the plants produce a profusion of flowers six weeks or two months in advance of those outside.

Bedding with Gladioli and Antirrhinums

VERY attractive beds lasting over a long period, and equally suitable on a large or small scale, can be made by the use of medium height Antirrhinums of one colour and Gladioli of a harmonising shade, planted at intervals of 18 inches throughout the bed. For example: A groundwork of Antirrhinum Yellow Queen, with a rose-coloured Gladiolus, such as Halley; a deeper yellow Antirrhinum, such as Orange Queen or Golden Gem, with a blue Gladiolus, Baron Jos. Hulot or Master Wietse; Antirrhinum Crimson King, deep crimson, and Gladiolus Peace, white with a faint mauve marking; Antirrhinum Mauve Queen and a yellow Gladiolus, such as Yellow Hammer or Goldfinch.

Another very beautiful effect can be obtained in a narrow border by making a groundwork of Antirrhinums and planting bold clumps of Gladioli at intervals, the corms 9 inches apart. In each case the Gladioli should be planted before the Antirrhinums, their positions being marked by Bamboo canes. Anyone who tries this form of bedding will find that the Gladioli give an additional effect to the Antirrhinums, and are themselves wonderfully improved, as the Antirrhinums, by hiding a great part of their stems, take away that stiffness which to my mind is the one thing which spoils an otherwise perfect flower.

Some people are under the impression that Gadioli will only grow in certain soils. This is quite incorrect; we grow them here in every soil and aspect. All that is necessary, we find, in heavy ground is to place a handful of coarse sand or old mortar rubbish under each bulb at the time of planting.

Annmount. J. L. COTTER.

SILVER LEAF ORDER

NOTICE TO ALL GROWERS OF PLUMS.

By the terms of the Silver Leaf Order of 1919, growers must grub up and burn all dead Plum trees, and cut away and burn all dead wood from Plum trees, before April 1 of each year, under penalty for neglect.

When affected branches die, the fungus spreads out through the bark, and forms flat crusts or bracket-shaped bodies on which are produced innumerable spores which spread disease. The annual loss to growers through the disease is already very considerable.

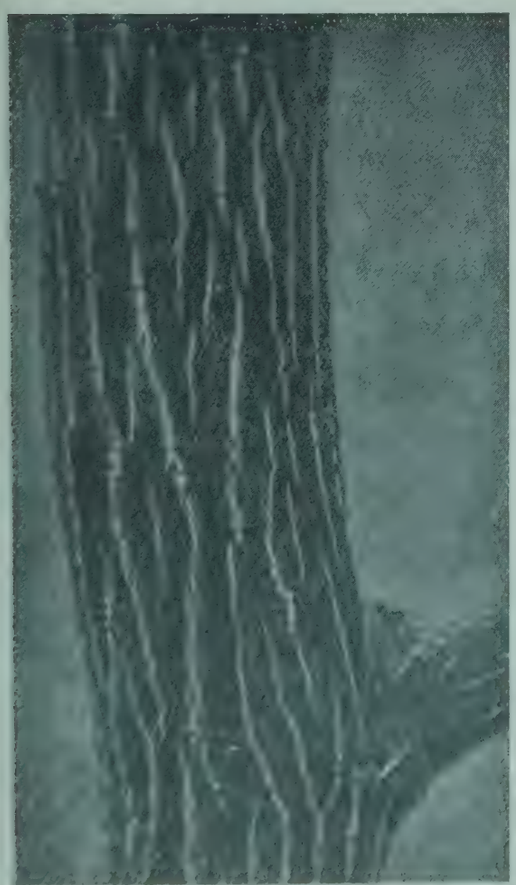
Silvery leaves on a Plum tree generally indicate that the tree is suffering from Silver Leaf disease. If one or two branches only are affected, these should be removed and burnt. The branches must be cut back to a point where no dark stain in the wood can be found, and, if practicable, close to the

WINTER TREATMENT OF TENNIS LAWNS

An Opportune Time for Renovation

NOW that the tennis courts are idle it is to the advantage of both the players and the lawns, to set about renovating the worn-out parts, and where the turf has been subjected to so much wear and tear, fresh turf must of necessity be laid down. I am frequently called in to advise as to this work, and I must say I am surprised that the greenkeeper in charge should sometimes advise the importation of turf that is quite unsuitable for the purpose, as, when it is put down, its texture, compared with the other turf on the courts, is quite different, and during the whole of the next season, until it gets worn bare again, looks out of place, with the result that the court has a very bad appearance indeed.

To remedy this I would advise all lawn-owners to, if possible, patch the bare and worn parts from the sides and ends of the ground outside the playing area, and returf this part or sow down with turf as near as possible to the same texture as the court itself, as with careful attention this can be easily worked up during the season—since there is no play on it—to almost the same condition as the turf on the court. Another point in regard to this turfing of the ends, which must of necessity be done year after year, is this: the soil below must be removed from time to time and fresh soil substituted, otherwise, no matter how good the turf, the results will be found to be very disappointing indeed. This returfing should be carried out as soon as possible after the courts are closed for the season, so as to enable the fresh laid turf to get well "knit" together for the next season's play.



All inequalities or hollows should be raised, and the best way to do this is by simply folding back the turf, not cutting it clean out, filling up to the desired level and replacing the turf again. By folding or rolling back the turf, the number of joints are lessened and a better job is made.

The Best Top-Dressing.—After this work has been carried out, the whole green or court should be top-dressed with a dressing of good mould (not sand) and well rotted manure, mixed. This dressing should be well rubbed in, and on no account allowed to lie on the surface.

Worms in the Soil.—Remove all worms from the soil, as a true playing surface is absolutely impossible when they are allowed to burrow and throw up their casts all over the surface. By their removal a firm, true, clean and level surface is obtained, which could never have been got if they had been allowed to remain in the soil. It may, to some people, seem like heresy when I say remove the worms, as it has always been held that worms are the natural drainers of the soil, and that if they are removed the ground will become waterlogged and the turf die out; but this idea is all wrong, and I have proved it so. I strongly advise the removal of every worm if possible. The most effective, simple, safe and non-poisonous worm eradicator I have found is that supplied by Messrs. James Carter and Co.

Mowing.—I now come to a very important part of the winter treatment of the grass on a tennis court or, indeed, of any lawn, namely, mowing and rolling. I shall take the case of the mowing first, as I consider it the most important. There is a mistaken idea that if the grass is kept cut short during the winter months, the frost and cold will surely kill it. Now, I wish to point out that this is all wrong, and I strongly advise the mowing of the grass. When I say this, I mean that it ought not to be allowed to grow any longer than what it was in the playing season; in other words, keep it close as possible and always mow when it requires it, as it will harden the grass, make it thicken out, and, when the playing season comes round, the surface will be a great deal truer and firmer from the commencement. If, on the other hand, the grass is allowed to grow without being mown, it will get thin, and when the spring comes the greenkeeper has practically to set about doing his best to manufacture a new playing surface.

Rolling in Winter.—The other point is rolling, and this is hardly less important than the mowing. How often does one see, after heavy rain, the iron roller at work for all it is worth to, if you ask, make a nice, smooth surface! A good piece of turf can very easily be ruined by the injudicious use of the roller, especially during the wet winter months. I have seen lawns and tennis courts which, I have been told, a few years before were in perfect condition—that had got into a very bad state indeed, and this has nearly always been caused to a great extent through using too heavy a roller and also using it at the wrong time. Never, especially in winter, roll the grass with a heavy iron roller when the surface is wet, as it is simply [illegible] to the lawn. Keep the grass cut short, and roll when the surface is dry (not wet) if a good, clean piece of turf is desired. The foregoing hints are what I practise myself, and which I find the most suitable for what is aimed at—a true, firm carpet of turf.

Surrey. P. W. L.

A Shrubby Meadow Sweet

(SPIRÆA ASSIMILIS)

THIS shrubby Meadow Sweet is a hybrid between S. betulifolia and S. pumila. It grows from 2½ feet to 3 feet high, sometimes more in strong ground.

SPIRÆA ASSIMILIS.

The flowering season is July and August when the white blossoms are showy and very useful along the front of a shrubbery border. The stools increase in size and provide a ready means of propagation by division.

A Snake-Bark Maple

(ACER CAPILLIPES)

AMONG the large number of Maples (Acers) cultivated in British gardens several have conspicuously beautiful trunks and branches. In addition to the subject of this note A. rufinerve, A. cratægifolium, A. Davidii, A. pennsylvanicum (syn. striatum) and the variety erythrocladum belong to a group which have been aptly named the Snake-bark Maples. Fruits of A. capillipes were collected in Japan by Professor Sargent, Director of the Arnold Arboretum in 1892. These were raised in the Arnold Arboretum Nursery, the subject of the illustration, at Kew, being one of a number of young trees distributed to European gardens two or three years later. The average height of the tree is given as from 30 to 50 feet. The [illegible] white-pupped [illegible] when growing in [illegible]

ANTIRRHINUMS OF MODERN TYPE

It is no longer necessary to grow Snapdragons from cuttings, the choicest varieties come true and even from seed

WHOEVER has of recent years seen the fine groups of large-flowered brilliant-hued Antirrhinums that have been notable features at many of our principal summer shows will readily admit that, compared with the old-fashioned types that were old-time favourites in country cottage gardens, the present-day strains and varieties are little short of marvellous improvements, and to a few ardent enthusiasts among the plantsmen and seedsmen of our own country the lion's share of credit belongs for this remarkable advancement and improvement of a homely, old-fashioned, but extremely beautiful and serviceable flower. In many modern developments of both garden and greenhouse flowers happily crowned with remarkable success, of those who, perhaps for ten or a dozen years, have worked on a stock to get it fixed, rogued and selected until it has attained a standard of purity that makes it possible to raise from a shilling or a sixpenny packet of seed hundreds of plants which, with maybe 1 per cent. or 2 per cent. of renegades, will be practically as true and even as though propagated from cuttings. It is this possibility of raising true and pure stocks from seed that makes the Antirrhinum so extremely useful and so essentially a plant for the million, and we owe appreciation and gratitude to the workers who have given us such flowers.

Some few years ago Mr. Frank Simpson of the firm of W. H. Simpson and Sons, Birmingham,

INTERMEDIATE ANTIRRHINUMS, UNIFORM IN HEIGHT AND COLOUR.

hybridists and plant breeders have been very materially assisted by the acquisition of new species and types from distant lands, providing new material with which to hybridise and cross-fertilise the older inhabitants of British gardens, but in the case of the Antirrhinum there appears no evidence to support a theory that the evolution of our modern race owes much, if indeed anything at all, to foreign importations, the breeders' work having been practically confined to cross-fertilisation of the existing British stocks and subsequent patient and painstaking selection and reselection of the progeny of such crosses and breaks as were secured.

Less than twenty years ago one might have hoped in vain to raise from a packet of the choicest Antirrhinum seed available plants of uniform height and habit suitable to fill a bed where uniformity is desirable, while so far as colour was concerned the flowers were certainly more remarkable for variety than purity of shade.

The average garden lover can have but a very faint idea of what has been involved in the efforts

turned his attention to Antirrhinums, and with a view to establishing a representative collection he procured stock of all varieties he could lay hands on, and while their beauty and serviceability was readily recognised, this keen and exacting judge of a flower promptly arrived at the conclusion that even the best stocks of the day were capable of considerable improvement by the process of rigid selection, and as promptly the task was taken in hand. Cross-fertilisation also occupied Mr. Simpson's attention, and both in the refining of the cream of existing varieties and in the production of novelties his efforts have been attended with gratifying and praiseworthy results. Abundant evidence of this is forthcoming in the fact that at the Royal Horticultural Society's Trial of Antirrhinums at Wisley in 1920 half of the total awards of merit were voted to stocks submitted by Messrs. Simpson and Sons. To be exact, the awards were thirteen awards of merit out of a total of twenty-six granted, and ten highly commended awards out of

When it is pointed out that the appearance of more than one rogue in a trial disqualified any variety from any recognition at all, it becomes apparent that Messrs. Simpson's collection has been brought to a remarkable standard of quality.

To name and describe these varieties is outside our purpose, nor is it necessary, since the firm's catalogue furnishes this information, but passing reference must be made to the two novelties of last season which Messrs. Simpson introduced. One of these is named Lady Roberts, and it is a pure primrose with no mixture of deeper shades. It is within 1½ feet in height, and makes a good symmetrical bush with plenty of medium-sized spikes, a desirable character for a light-coloured variety. The other novelty is named Sybil Eckford, partly out of compliment to the honoured name of Eckford of Wem and also because in colour the Antirrhinum very successfully mimics the charming Sweet Pea that bears the same name. The tube of the flower is white, and the standard, nose and frill are cream merging into lemon, but overlaying this ground colour is a beautiful wash of delicate apricot pink, which thickens toward the edges almost in picotee fashion.

It is an extremely beautiful and captivating flower. May Mr. Simpson continue his efforts with an equal measure of success to the advantage of a rapidly advancing flower that is so eminently adapted for general cultivation in town and country gardens. OLD FLORIST.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Sweet Peas.—A first sowing may be made on light soils any time now of this most useful annual. Sow rather more thickly than is necessary for later batches, as germination may not be quite so satisfactory.

Border Chrysanthemums.—If increase of stock is necessary this may be achieved either by cuttings or by division of the old stools, small rooted portions of which, if potted up for a while and put in a close frame, will soon make good plants for planting out later.

Cannas.—These, having been kept at rest, are showing signs of activity and, according to requirements, must either be brought briskly along to make large plants, or still kept in a cool house until a later date. Cannas should be boldly grouped to get the best effect outdoors.

Perennial Asters.—Whether grown in a border by themselves or with other plants the ground for them should be well cultivated, and the lifting and replanting of them may be carried out at any time as opportunity offers itself. Always select the outside portions of the clumps rather than the centre, which is somewhat exhausted.

The Kitchen Garden.

Chives.—The young shoots are much appreciated for salads and soups and may often serve as a good substitute for Onions. Planting may be done now where necessary, and increase made by division of the old roots or by seeds.

Spinach.—This most wholesome vegetable is in very great demand in some gardens, and to maintain an unbroken supply it may be necessary to sow the first lot of seed on a declining hotbed in a frame. Where a portion of a warm border can be spared for it a small sowing could now be made outside also. Owing to the mildness of the season it has been possible to obtain good pickings quite frequently from the autumn-sown seeds.

Seeds.—Make a good sowing of Broad Beans and round-seeded Peas if not already done. For the latter choose the most favourable spot available; I find Pilot quite one of the best for this sowing.

Cucumbers.—Get these placed in fruiting quarters as soon as plants are fit. Cucumbers delight in a hotbed which has a good supply of

should be allowed at first to give them a start, and then add a little fresh soil as required. Cucumbers must never be dry at the roots, neither is it advisable to allow a dry atmosphere. Should it be impossible to allow the usual bed for Cucumber growing, quite a nice supply of fruits may be cut from plants grown in large pots, especially if the latter be plunged in a warm bed of leaves.

Plants Under Glass.

Chrysanthemums.—Avoid giving a check, if possible, by potting on as required, and keep steadily growing under cool conditions. If growing in cold frames, cover the lights well up at night. In the early stages of growth let the compost be fairly light.

Hydrangeas.—These are very useful in small pots as base plants for decorative work, and some cuttings struck last summer should be encouraged to flower in 4-inch and 5-inch pots as single stem plants. More effective results are obtained by placing three plants from 60s into 6-inch pots, and allow one head of bloom to each plant.

Begonia Gloire de Lorraine.—Cuttings of this and kindred varieties should be procured as soon as they are fit and dibbled in pans of silver sand and sifted leaf-soil or peat, and placed in a propagating pit. Should very large plants be required, some of the healthiest old plants should be retained for growing on after resting them awhile and cutting them back. The same results may be obtained by placing three rooted cuttings together when potting them up from pans.

Fruit Under Glass.

Vines.—Those which have reached the flowering stage should be given a drier atmosphere, and from 10 a.m. to 12 noon the rods should be gently tapped to liberate the caps and help dispersal of the pollen. Shy setters should be treated with pollen from another rod, by means of a camel-hair brush or rabbit's tail used lightly. Vines with buds now swelling up may be warmer and on bright days receive a spraying of tepid water, given for preference during the early part of the day.

Strawberries.—These should be pollinated during morning hours, and as soon as the fruits have set a partial thinning should be given, and the final reduction to the desired number after a few days' further growth.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—A sowing of this popular winter vegetable should now be made, requiring as it does a lengthy season of growth. Sow the seed thinly in boxes, so that the seedlings may not become drawn and weakly before pricking out on a mild hotbed. We still favour the variety Solidity, which is of excellent quality and proves most reliable for our district. Dreadnought is also an excellent sort, standing well and producing an abundance of firm sprouts.

Parsley.—An early sowing should be made of a special variety for transplanting, so that early growths may be obtained. The fine curled sorts are always popular and well repay any extra trouble entailed in raising them.

Celery for Autumn.—Where Celery is required early in the autumn, a sowing of a reliable white variety should now be made. Sow the seed thinly, and, after germinating, a place should be given them on a shelf near the glass, so that the seedlings will remain sturdy until pricked out into boxes or warm frames.

Shallots.—Where the soil is warm and light, these may now be planted. Get the ground into a nice free condition, scattering some wood-ash over the surface before raking it, as this has a most beneficial influence. The bulbs should be planted in rows about 12 inches apart.

Plants Under Glass.

Amaryllis.—These gay-flowering subjects, having had a season of rest, should now be taken in hand. Shake out the exhausted soil, repotting with a fairly heavy mixture. A warm pit or Vinery will be suitable to start them in.

Fuchsias.—These always seem to retain their popularity, and, indeed, if well looked after there are few plants which are more attractive during the summer months. They should now be moved from their winter quarters and pruned into shape, [illegible] them into a genial temperature to break. Quantities of cuttings may then be obtained, either for bedding purposes or for growing on for conservatory decoration. Young plants raised last year may be potted on for larger specimens. A splendid sort for the edging of stages is Cloth of Gold: it is a hanging variety and is also most attractive when grown in baskets, year old plants being best for this purpose.

Poinsettias.—As these useful stove shrubs are now past, it would be advisable to move them to a house where the temperature will be about 50°; here they will get their necessary season of rest.

Roses in Pots.—Plants which are advanced to the extent of showing bud should be given some liquid manure, so that strong flower stems may be encouraged. Keep a sharp look-out for the maggot, and should mildew appear, keep it in check by giving the foliage a dusting of sulphur.

The Flower Garden.

Antirrhinums.—Very little need be said here regarding these most excellent subjects for the embellishment of the flower garden, other than that to have good strong plants for bedding out in May no further time should be lost in sowing seed. Readers will have noted in previous issues of THE GARDEN the varieties recommended and the treatment necessary.

The Herbaceous Border.—In many cases it is only now that gardeners have an opportunity to replant the herbaceous border since pre-war days, so where replanting is intended the various plants should be carefully lifted and labelled, afterwards heeling them into temporary quarters until the borders are trenched and ready for them. Where the soil is light, replanting in autumn is advisable, but where it is of a clayey nature spring planting is preferable, as root action takes place more quickly and the crowns of the plants suffer less from the ravages of slugs or excessive damp. It is essential that the ground should be thoroughly trenched, incorporating plenty of well-decayed manure and leaf-mould, while old vegetable matter from the rotpit should be worked under the second spit. See that all surface irregularities are put right, allowing the border to slope gently towards the front. Plant in bold clumps, while one's own good taste and judgment must be exercised regarding the blending of the colours and the flowering period of the various plants.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

EVERLASTING FLOWERS FOR MARKET (*A. G. C., Lincolnshire*).—We have considerable misgivings in recommending any amateur to embark on the cultivation of everlasting flowers for sale in the markets. Their cultivation is a comparatively easy matter, but their after-preparation requires a deal of knowledge and experience. The most profitable of all the everlastings would be the old favourite, Honesty, for which the demand always exceeds the supply and which is comparatively easy to prepare; but it has the disadvantage of being a biennial, and it is now too late to raise plants that would flower this year. If our correspondent seriously contemplates growing everlastings after this season we would strongly recommend him to devote a portion of the available ground to Honesty, sowing the seeds outdoors during the latter half of April and transplanting to the flowering quarters in the autumn. Honesty (Lunaria biennis) will thrive in quite poor soil, so manure is neither necessary nor advisable. Of the everlastings that are grown for their flowers we should prefer the Helichrysum. These would do best if the seed is sown in moderate heat this month. The seedlings should be pricked off in boxes in due course and finally planted out at the end of May. Seed can be had in separate colours or, if preferred, a sowing of a mixture, such as Sutton's Large-flowered. If properly marketed, Xeranthemum superbissumum or Acroclinium, as named by our correspondent, would also be suitable and should be treated similarly to the Helichrysum, but allowed less room from plant to plant. For the roots of Gloriosa superba write to Messrs. H. Ryder and Son, St. Albans.

RAISING ANTIRRHINUMS (*A. B., Chippenham*).—Where these are grown in increasing numbers each year on the annual plan, and if a greenhouse or frame with slight warmth is available, the seeds should be sown at once. The seedlings, correctly treated, would be ready for planting in the open early in May, and would begin to flower in July or early August. An essential in the case is that the seedlings be grown on quickly without a check. That is to say, raised in a temperature of 45° or 50°, they should be pricked off as soon as they can be handled and grown on steadily in the first named temperature for a few weeks in order to become sturdy and strong. For three weeks or so prior to planting out the plants should receive air more freely, thus reducing any check to a minimum when planting-out time arrives. If it is not convenient to pot the plants singly in small pots, which is much the best way, they may be grown in boxes, transplanting them 2 inches or rather more apart each way. From either method sturdy plants result. By sowing in August in open ground in a sheltered place the plants may be put out in March, an earlier flowering resulting. The variety

THE PINK-FLOWERED ANTIRRHINUM NELROSE.

Nelrose would enter into a colour scheme for pink flowers. If our correspondent is unable to raise the seedlings as stated, the best modern colours found in these plants are to be obtained from Messrs. Sutton and Sons, Reading, or other specialists advertising in our columns.

TREES AND SHRUBS.

EVERGREEN SHRUBS OF LOW STATURE (*Taxpayer, Notts*).—The old tennis ground it is desired to plant with evergreen shrubs of low stature, not to include Hypericums, may be made quite effective by planting various kinds of Rock Roses and Sun Roses, Cistus and Helianthemums. They succeed in poor soil and quickly cover a considerable area of ground. Any of the Helianthemums offered by nurserymen will be suitable, but only the hardiest Cistuses, such as C. monspeliensis, C. recognitus and C. populifolius, should be planted. C. Loretii and C. laurifolius are also hardy, but they grow from 3 feet to 6 feet high. Other evergreen shrubs that could be planted successfully in the position are Berberis Aquifolium, Juniperus Sabina, J. communis and any other dwarf forms. Berberis Aquifolium can be kept to a height of 1 foot by pruning

BLASTING A TREE (*D. N.*).—Can you tell me how to blow up an isolated tree so that it is reduced as far as possible, to facilitate carting away?

[The question respecting blowing up a tree is very vague for our correspondent does not say whether the tree is standing or whether it has been felled. If it is still standing, it would be unwise to try felling it by bla ting, for the results would probably be very unsatisfactory. If the tree has been felled and is sound, however, it is quite possible to break the trunk up by means of explosives. In such a case it would be wise to remove all the branches and saw the trunk, by means of a cross-cut saw, into lengths of 6 feet or 8 feet, according to girth. A slanting hole 1 inch to 1¼ inches in diameter should then be bored into each section midway between the two ends to a distance a little beyond the centre. Into this place a little coarse blasting powder, then a section of time fuse extending well beyond the mouth of the hole. Keeping the fuse in the centre of the hole, pour in 2ozs. or 3ozs. of powder, of the same kind as before, according to the size of the trunk. The powder must be kept level, and above it must be placed wads of slightly damp paper pressed firm by means of a stick. Above this ram in sufficient stiff soil or clay to fill the hole. Place a light to the fuse and retire to a safe distance. The heavier the powder charge the smaller should the wood be broken up. Great care must be taken that the charge is not exploded prematurely, and should a charge fail to explode in the appointed time it should not be approached for at least an hour. If the trunk is decayed badly, it will be little use trying to divide it by explosives. Should there be anything in the vicinity that is likely to be damaged by an explosion, it would be better to saw the trunk into short lengths and split it up by means of wedges and a heavy mallet. Dynamite cartridges are sometimes used to break up trunks of trees, and more particularly roots, but when such are employed it is wise to secure the assistance of an experienced person for the work. It is not wise to attempt to split a long trunk without dividing it, for it may be badly cracked throughout its length but not sufficiently so to enable it to be removed easily, whereas a second charge of powder placed in the badly cracked wood would not have the desired effect.—ED.]

HOW TO DESTROY GORSE (*R. R., Surrey*).—A heavy dressing of lime would possibly destroy the Gorse, but afterwards it would need grubbing out. The best thing to do is to work with a mattock upon it; a spade is out of the question. If the clump be burnt over first this will simplify the work to a considerable extent.

THE GREENHOUSE.

FIG TREE UNDER GLASS NOT BEARING FRUIT (*N. M. L., Yorkshire*).—Even if the trees have been neglected there is no reason why the outer young shoots of the previous year's growth should not have ripened a crop, so long as the trees were well supplied with water. Possibly the trees are considerably overgrown with branches, causing so much congestion of growth that diffusion of light and air among its branches is practically impossible. The thing to do now will be to cut out all dead and sickly-looking shoots. Probably this will not be enough to remove the congestion. In that case do not hesitate to cut more branches out, cutting them well back to the branch from which they sprung, but bearing in mind to leave a goodly number of the young shoots of last year's growth well distributed all over the tree. It is these which will produce the first crop in early summer. We suspect the trees have been suffering from the want of water. The first thing to do is to flood the roots of the tree with a real soaking of clear water, and immediately afterwards give it a similar irrigation of strong manure water from the stable or cowyard. Give the trees a good watering afterwards, every fortnight or three weeks during their season of growth, and the result should be satisfactory.

PRUNING A BOUGAINVILLÆA (*N. L., Maidstone*).—Our correspondent does not say whether the Bougainvillæa is growing in a pot or planted out in a border. In any case the plant should be kept moderately dry at the roots and in a comparatively cool, dry temperature in order for it to have a short period of rest after blooming. About the end of February it should be pruned. The way to do this is to cut back the small side shoots of the branches to within two or three buds of their base (in the same way as a Gooseberry is pruned). At the same time the plant should be introduced into slight, moist heat in order to induce it to start slowly into growth. Give the plant a good watering, and continue the supply as required. Should the plant require repotting, this would be the time to attend to it. As the season advances, the growth of shoots (from those pruned back) will soon be abundant. Let such grow unchecked; they will flower freely in due time. The plant loves abundance of sunshine and plenty of weak liquid manure when in full growth.

ROSE GARDEN.

ROSE GRUSS AN TEPLITZ UNSATISFACTORY, AND OTHER QUESTIONS (*L. B., Bucks*).—Rose Gruss an Teplitz usually flowers well on its own roots. Try bending the strongest shoots down, cutting off only about 1 foot of the thin growth at the end, cutting out also the thin and old wood as usual. Seeds of Mignonette Parson's White and Schizopetalon Walkeri can be obtained from Messrs. Thompson and Morgan, Ipswich.

FRUIT GARDEN.

APPLE COX'S ORANGE UNSATISFACTORY (*J. W., Market Drayton*).—The drainage is probably not sufficiently good for Cox's Orange Pippin. That Apple is very sensitive to its surroundings and delicate, and requires a very well drained and warm soil to do well in. The shoots sent by our correspondent are apparently off cankered branches, and they are not likely to recover it so far diseased as these appear to be. The only thing that can be done is to cut out all the cankered growths as completely as possible (*and burn them*) and paint the wounds so made with lead paint. If our correspondent wishes to plant more trees of this variety it would be well to plant them on the surface of the soil, mounding the earth up round about them instead of digging holes in which to plant them in the usual way.

MULBERRY TREE UNSATISFACTORY (*N. L., Maidstone*).—The Mulberry is one of those fruit trees which does not require any pampered treatment. Usually it is left severely alone as regards pruning. It does not bear freely until the tree becomes old, and fifty years is not a great age for a Mulberry tree. We think that the part of the tree which is fruitful has a better exposure to sunshine than the other parts, and that this may be the reason. If this is so, the remedy would be to give the tree generally a greater exposure to sunshine by removing the cause of its obstruction, should this be possible. The weakening of the branches, in consequence of injury at some time, will occasionally cause early fertility.

MISCELLANEOUS.

WEEDS ON LAWNS (*E. M., Malmesbury*).—The seeds of the weeds that have grown on the lawn among the newly-raised grass were in some cases probably dormant in the soil, but in most instances they were introduced while the ground was cropped with vegetables. Some of them were probably brought in with manure, while others have been carried to the ground by wind or by birds. It is also likely that some weeds were allowed to seed on the ground during the war when labour was scarce. It is not unusual for a considerable number of weeds to appear among grass sown on ground that has been used for general garden purposes, but if they are pulled up the grass will in time get the upper hand. The only other thing that can be done is to dig the ground over, tread it well, and lay turf instead of sowing seeds.

Around the Markets

SNOWDROPS from Ireland, the West of England and elsewhere in great quantity give the markets a much more springlike air and feeling than do all the more showy Dutch bulbs, which are even more in evidence. I suppose the reason is because the Snowdrop is the real herald of spring and also that, although they are quite hardy, we know instinctively that the Hyacinths, Tulips and Daffodils are forced flowers and no true index to season or climatic conditions. Crocuses, unfortunately, do not lend themselves to bunching, so are not seen so much in the markets as otherwise would be the case, though there are plenty of growing plants in shallow boxes and in small pots. I often wonder that someone with a country garden does not "go in" for the pretty little Winter Aconite with a view to sending bunches to the markets. I am sure they would at once become popular and sell well. It is any such floral novelty that becomes profitable. A good stock could easily be raised in a couple of years or so, and there must be plenty of shrubbery borders where they could be grown, to say nothing of in the old orchards, without occupying valuable ground or entailing labour.

Nearly all the Tulips at present on sale are of the Dutch varieties, but already a few lots of Darwins are to be had. This is very early for this type, and the growers did not receive their anticipated reward of greatly enhanced prices for their enterprise, but it must be confessed the blooms were not first class. The Darwins are not so amenable to hard forcing as are the Dutch sorts, so it was only to be expected that they would be somewhat pallid, but a few weeks' time will soon remedy this defect.

Lilac, both white and coloured, chiefly from across the North Sea, and Freesias, clean and deliciously fragrant are of extra quality. Among the many pads of excellent Mimosa lately arrived, one notes the smaller-leaved and richly coloured Acacia Baileyana, which does not flag and consequently is more decorative than the true Mimosa, Acacia dealbata.

Camellias, which were indispensable to the fashionable lady's toilet fifty years and more ago, are again enjoying a popularity, even though more limited, but prices are much lower than then.

Among flowering plants are some particularly good Primula sinensis, nearly as good as those shown by Suttons' of Reading at Vincent Square recently, but not quite so rich in colour. Cyclamen, Cinerarias, Ericas in variety, golden Genistas and white Marguerites are also present in quantity and of quality. Well-berried Solanums are quite brilliant but they do not clear so quickly as at Christmas.

Most noticeable in the vegetable markets is the great increase in salads, and no longer is Lettuce represented by small leafy plants just out of the seedling stage. Now, the golden Cabbage Lettuces are nicely hearted, and seem very crisp and good. Radishes are also of first-rate appearance. Chicory has become rather more popular, but I doubt if ever it will again sell so well as during the war, when so many of our Cross-Channel friends were here. A. COSTER.

February 4.

SEEN IN THE MARKETS. CAMELLIAS AND DOUBLE WHITE LILAC.

THE GARDEN

No. 2570.—Vol. LXXXV.] [February 19, 1921

NOTES OF THE WEEK

The close relationship which has existed for many years between The Garden and its readers has been very pleasant. On that account we may be permitted, indeed are justified, in referring to many letters which have reached us during the past few weeks. They constitute a chorus of praise of our efforts to encourage the revival of that love of gardening in which relief can be found from the exacting tasks of everyday life. It is also gratifying to be able to say that there have been many additions to our subscription list and regular readers. In these days of heavy costs it must have been obvious to the most casual that largely increased expenditure has been necessary in order to make The Garden as additionally helpful and attractive as our correspondents say it has been. We do not pose as philanthropists—our frank purpose is to benefit reader, advertiser and ourselves. All alike can contribute to the general good. We are endeavouring to do our part. Advertisers have supported and are supporting our efforts, and in turn should be supported. We are hopeful that all our readers will further the joint effort and their own interests, as they can do at one and the same moment. They can best do this by letting their acquaintances know that The Garden is increasingly helpful and instructive that others may learn in what manner their gardens may be improved. Our aim is to make The Garden of real service to amateur and professional alike, and we shall gladly welcome any suggestions which contribute to this end.

On well drained soil the time is now at hand for sowing early Peas in the open. Where time and labour allow, the ground should be deeply trenched and enriched with well decayed farmyard manure, for the Pea is a very deep rooting plant and a gross feeder. The soil cannot be too deeply worked, although the sour subsoil must never be brought to the surface, for neither Peas nor any other crop will grow satisfactorily in it. The subsoil should be dug up and left at the bottom of the trench. It is a mistake to bury the manure in a thick layer. By all means apply well decayed manure, but let it be incorporated with the soil as the ground is turned over. The multiplicity of varieties serve only to confuse rather than to help in the making of a selection. For an early gathering on a sheltered sunny border Pilot is one of the very best. For a succession, Duke of Albany, Quite Content, Gradus and Discovery are reliable; while Rearguard, Gladstone and Autocrat are hard to beat as late varieties.

A New Maincrop Pea.—The illustration on the front cover of this issue depicts the new maincrop Pea King George, sent out by Messrs. Webb and Sons. It is a prolific cropper, attains five feet, and is equally suitable either for exhibition purposes or for the table. The pods are large, well filled and dark green in colour.

An Early Potato of Good Repute.—The varieties of first early Potatoes are now so numerous that one finds difficulty in making a choice. The variety Sutton's May Queen can safely be recommended. This Potato still maintains its reputation for earliness. It is unusually prolific, as may be judged from the accompanying illustration in the Oakfield Gardens, Mortimer. It is [illegible] for early borders or small gardens or for forcing in frames. Although an early variety in the true sense, May Queen has the merit of keeping well.

Some More Early Openings.—I hear from Mr. Jones of Invermore, Woking, that he had Narcissus cyclamineus in flower in the open on January 25. Mr. Hawker at Ivy Bridge, South Devon, had minimus, obvallaris, Cymry and pallidus præcox in flower on February 6 and cyclamineus and Golden Spur about ten days before that date.—J. Jacob.

A HEAVY CROP OF MAY QUEEN POTATO IN A BERKSHIRE GARDEN.

Mr. James Coey.—Many readers of The Garden will be very sorry to hear that Mr. James Coey, who is the proprietor of the Donard Nursery Company, Ireland, and is well known for his exhibits of rare shrubs and finely-grown Daffodils, is lying exceedingly ill at his home near Larne.

Grafting Rhododendrons.—The widely increasing interest now being taken in the cultivation of Rhododendrons suggests a seasonable note on the preparation of stocks for grafting. While this method of propagation is not desirable when seeds, cuttings or layers are available, it is a necessity for the extensive propagation of the many beautiful large-leaved evergreen hybrids, and also some of the newer Chinese species, which take so long to reach the flowering stage from seeds, and which cannot be conveniently layered in quantity. The most generally used stock for grafting is R. ponticum. As a very much larger percentage of successes result from grafting under glass, the young plants should be potted up now to get them fairly well established ready for grafting in early spring. The stems should be the size of or rather smaller than a pencil. After potting, place the young plants for a time in a cold frame, moving to a heated propagating-case ten days or a fortnight before grafting.

FORTHCOMING EVENTS

February [illegible] — Royal Horticultural Society's Fortnightly Meeting at Westminster. Lecture by Mr. Vivian P. Davis [illegible] Beautiful [illegible] coloured slide illustrations.

February [illegible] — Irish Gardens [illegible] Meeting

CORRESPONDENCE

THE MILD SEASON.

READING the correspondence on this subject in THE GARDEN, February 5, page 62, it occurs to me that it may be of interest to mention that I have on my table to-day a fully developed bloom of a Camellia gathered yesterday (February 3) in a garden on the outskirts of Norwich. So early a bloom of this shrub in the open air may not be unusual in the Southern Counties, but is probably somewhat rare in this locality.—WILFRID TILLETT, *Norwich.*

A WRITER in a local paper says that the open weather in Aberdeen is bringing on plants much before their usual time. The yellow Jasmine has been in bloom for weeks and quite early in January he saw Pyrus japonica in full flower against a brick wall. Crocuses were in evidence in January, and a friend showed him a big bunch of lovely Daphne Mezereum plucked in a Queen's terrace garden.—J. G. W., *Banffshire.*

A HYBRID CLEMATIS.

IN THE GARDEN of January 22, page 42, Mr. W. E. Arnold-Forster asks whether the hybrid between Clematis Vitalba and C. Davidiana, illustrated in THE GARDEN of January 8, page 17, is in commerce. It can be obtained from most good class nurserymen, who generally catalogue it under the name of C. grata, although its correct name is Clematis Jouiniana, the true C. grata being a native of the Himalayas and China, with flowers of a yellowish white, and very rarely met with in cultivation. C. Jouiniana, the plant illustrated, is a very attractive plant, flowering freely from August till October. On the same page is an interesting note on Winter-flowering Clematis. Another that should be included among those mentioned is C. indivisa lobata, native of New Zealand, and although perhaps not hardy, it is an ideal plant for the roof of a cool greenhouse. A plant in the conservatory at the Botanical Garden, Cambridge, is looking very effective at the present time with its clusters of white Anemone-like flowers, and as there are very few climbers flowering at this season of the year, it is a most desirable plant.—F. G. PRESTON.

TRAINING OF PEACHES.

IN THE GARDEN of January 1 a reader tells of a new idea he had seen in regard to the above subject, but a system of training, very much like the one spoken of, came under my notice some years ago, at Terregles Gardens, Dumfries, the trellis in this instance being semicircular in shape. This Peach House was part of a range of glasshouses, which was spoken of as being one of the oldest in Scotland, and this was brought home to me very forcibly during cleaning operations, as the panes of glass were very small, thus causing a great amount of extra labour. The trees mentioned did not do very well; but this was no doubt owing to old age and exhaustion rather than the result of the peculiar system of training practised. The height of the trellis was about 5 feet, if I remember rightly, therefore it did not interfere in the least with the trees on the wall at the back of the house. I may add that the vineries in this same range were rather unique in the way of construction inside, no doubt with the same end in view, the taking advantage of all possible space. The border at the front of the house wherein the vines were planted would be about 2 feet to 3 feet in width, with a retaining wall and flagged pathway along the front and at either end, level with the foundation or floor of border. Stone steps led up to the pathway at the back of the house, which extended from end to end of the range as in the more modern fruit ranges. A substantial stone staging filled the centre of the house, very probably for the purpose of growing Ferns or other shade-loving plants thereon. At that time it was utilised for the housing of such subjects as late flowering Chrysanthemums in the autumn. Terregles has recently been acquired by the Board of Agriculture for the training of ex-service men.—J. S., *Dumbartonshire.*

TULIPA CLUSIANA AND ACACIAS.

TULIPA CLUSIANA is a very handsome species, growing about 18 inches or 20 inches high; the leaves are long and narrow and the flowers are crimson and white with a purplish

THE DAINTY LADY TULIP (T. CLUSIANA).

crimson base. I imported it from Messrs. Barr and Sons at the same time as T. saxatilis, and although it does fairly well with me, it is not nearly so vigorous as the latter plant. It flowers about the end of September or beginning of October. Acacia longifolia is one of the most distinct of the genus and is a most beautiful sight when the tree is in full bloom and has not been disfigured by frost. Flowers in September. Another distinct species, Acacia cultriformis, the Knife-leaved Wattle, is very hardy, not so susceptible to frost as Acacia longifolia, and flowers in the beginning of October.—F. FOY, *Lancefield, Victoria, Australia.*

THE SWEET WILLIAM CATCHFLY.

AS annuals seem to be coming into their own again, I would fain mention the Sweet William Catchfly, or Silene Armeria, as worthy of a prominent position in the garden for its bright pink colour and the sprightly habit of the plant. The flowers are produced in flat-topped fascicles at the apex of the stem and branches, similar to those of the Sweet William, without the basal tufts of leaves, as it is an annual. I have seen it become popular in a garden for [illegible] table nosegays, along with Nycterinia selaginoides (mentioned on page 54), Mignonette and Sweet Peas. When thinned to 4 inches apart, it grows 6 inches to 12 inches high, according to the fertility of the soil, and is a cheerful-looking plant of the easiest cultivation. Although a native of the Continent, it has become naturalised in some parts of England. I have seen it so growing in copswood in Kent, where the trees had been stooled some years previously. The front of borders, rock gardens and small beds are the best places for it.—HORTULANUS.

A YEW TREE.

IN a small wood near Castleford, the residence of W. R. Lysaght, Esq., is a specimen of the common Yew that has often attracted my attention, and, in consequence, a few days ago I took various measurements, partly out of curiosity and partly to ascertain how it compared with other specimens in Great Britain. The base of the trunk is 14 feet in circumference; 5 feet from the base, 12 feet in circumference. Twenty-seven fairly large branches radiate from the trunk 6 feet above the ground level, giving a spread of 19 feet from the trunk in all directions. The approximate height is 35 feet. The common Yew thrives in this district and is reminiscent of the bow and arrow period.—T. W. BRISCOE, *Chepstow, Glos.*

QUALITY IN COOKING APPLES.

THE thorny question as to whether an Apple, if not good to eat raw, is not good cooked, I will not pursue with Mr. Farmer (page 40), but I am quite sure many will differ from him when he says "that there is not a finer cooking Apple in existence than Blenheim Orange." I am glad to see in the same article how well Mr. Farmer speaks of Gravenstein, for this is certainly an Apple of excellent quality, but there are better croppers from what I know of it. As stated by "H. C." (January 8), Ellison's Orange is good and will undoubtedly come to the fore. Another Apple he mentions, Miller's Seedling, is one of the best early Apples I know. It does splendidly in the orchards of Berkshire, but, like the writer, I have seldom heard of it outside that county.—H. T., *Guildford.*

SHOW VEGETABLES.

AT last, at long last, the Royal Horticultural Society is taking a practical step which I have urged for a considerable number of years now. In the new Book of Arrangements for 1921 I read with delight that "it has been decided to encourage at all future shows the exhibition of those tender, shapely specimens of moderate size which chefs and cooks rightly prefer to the monstrosities which often appear on the show table." And, may I add, not only chefs and cooks, but discriminating people who have the eating of those things when cooked. The above hint to judges is in any case, an excellent one, and although the galled jade may wince, I feel sure that the withers of my good friend, Mr. E. Beckett, will remain unwrung.—F. HERBERT CHAPMAN.

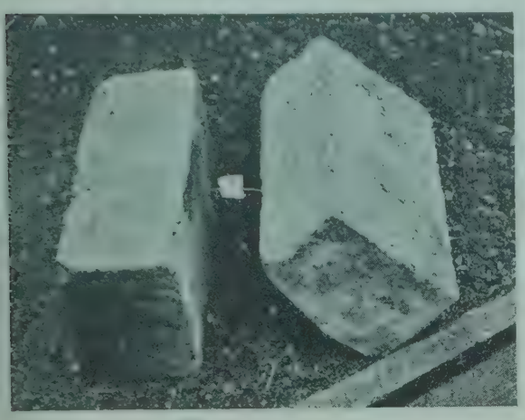
THE COLOURS OF EARLY SPRING FLOWERS.

"IT is an interesting fact to note that the colours of the great majority of our early spring flowers are either white or yellow. To mention only a few, we may include among the whites such flowers as the Snowdrop, Wood Anemone, Wood Sorrel, Daisy, Shepherd's Purse, Blackthorn and wild Cherry. Yellow spring flowers include the wild Primrose, Cowslip, Crowsfoot, Dandelion, Daffodil,

atisfactory reason has been given for the modest olours characteristic of early spring flowers. erhaps some reader can suggest a solution." So rites "W. A. J. D." in a Scottish newspaper. an any reader of THE GARDEN enlighten him?— . G. W.

A SIMPLE GARDEN MOUSE TRAP.

TWO bricks, a short length of wire, a small piece of cheese, and one can almost be certain of the mall rodent falling a victim once it gets within



A MOUSE TRAP EASILY MADE.

scent of the bait. The accompanying illustration pictures the use of this simple device, and it is a wonder it is not more frequently found in gardens where mice play havoc, as it is one of the surest traps that can be used. One of its biggest advantages, too, is the fact that it is not a trap that one finds disappears as do the smaller spring traps; for how often one man sets a portable trap on the ground under his charge, only to find in a day or two another, and generally undiscoverable, man has "bagged" it, or, in other words, borrowed it for his charge without first asking the consent of the first man. These "borrowers" do not feel so inclined to walk off with a couple of bricks, so this form of trap is much more safe from this point of view. A little practice soon gives one the knack of setting the trap so that it works rapidly and efficiently and closes properly.—E. B.

FORCING DANDELION AS A WINTER SALAD.

SEEDS of this simply grown plant, of great value for winter salads, may be sown at any time during the spring or summer months. Plants resulting from early sowings will produce larger roots and eventually larger heads when forced. An open site is best, though almost any site will answer the purpose, but deep, well manured soil will produce the best results. Seeds should be sown in drills 15 inches apart and the seedlings thinned out, when large enough, to 10 inches apart. Nothing is necessary during the summer months but to stir the surface to eradicate weeds and conserve moisture. All flowers should be removed immediately they appear. The roots should not be lifted until growth is complete and will force better if allowed to remain exposed to the elements for a fortnight, when they should be packed into pots or boxes filled with fine soil and placed in any dark structure with a temperature of from 50° to 55° at night. A tube of paper about 2 inches in diameter should be placed over each crown to encourage upright growth, otherwise much of it may be recumbent and unmanageable. The Dandelion shown by Messrs. Sutton and Sons recently was forced in this way. It is of the utmost importance to see that the site previously occupied by Dandelions is thoroughly cleared of roots, otherwise a plant primarily grown for utility may become a serious pest.—S

THE GROWING AND FORCING OF SEAKALE

By following these Instructions even the Novice will meet with Success

SEAKALE (Crambe maritima) is a perennial plant of the Cruciferæ Natural Order, and a native of Europe, including Britain. It is an excellent vegetable. Many people consider it superior to Asparagus, although there is really no comparison between the two.

Soil.—The soil that suits the plant best is a good strong loam, fully exposed to the sun. A good substantial loam needs no manure when the crop is planted, but any less fertile soil will require manuring, and for this purpose there is nothing better than good rich stable manure. Seakale can be grown on all decent, well-tilled soils.

Growing from Roots.—The best way of making a start is by planting well grown roots. These are not difficult to handle or to procure, and are not very susceptible to a little exposure.

Raising Plants from Seeds.—This is an easy and simple method of procuring plants, but there is a loss of a year in obtaining a crop, for which reason it is better to make a start with roots. The seeds are sown in March on a nursery bed in rows a foot apart. The plants are thinned to 6 inches from plant to plant, kept free from weeds and finally transplanted to permanent quarters the following February or March. Or the seed may be sown on the ground that is to form a permanent bed. This is done by drawing drills 1 inch deep and 2½ feet apart, a few seeds being dropped in the rows at intervals of 2 feet. Cover the drills with nice soil and when the young plants have come up, thin them out by removing the weaker, leaving one, and that the strongest at each station. The plants grow rapidly and should be thinned early. Thus a permanent bed is formed from seed without transplanting.

Preparing the Soil.—As the plants require considerable space in which to thrive, dig two spits deep in the autumn, and put manure between the spits unless the soil is composed of good loam, when manuring at this stage may not be necessary. A 4 foot bed will carry one row along the centre, or a 10 foot bed may be worked off with a 3 foot path on each side. This will carry three rows 2½ feet apart.

FORCED IN A FORTNIGHT

Preparing the Roots.—The extreme ends of the roots are used. They are severed from the thick part of the main root by a straight cut, the lower or narrow end being cut slantwise. These cuttings are called thongs; they may show no bud, but that does not matter. Buds will soon form round the end of the upper edge when planted. Cuttings can be kept stored in moist earth or sand if necessary. Referring again to the matter of buds. If any show on the thongs before planting, they should be pared off, otherwise flowering shoots, which are detrimental to the crop, will be formed.

Planting Roots.—Having marked off the beds and thoroughly prepared the soil, proceed to lay down the line 2½ feet from the outside and dig out a trench 1 foot deep; set the roots 2 feet apart and cover. The crown should be about 2 inches below the surface. Rows should never be nearer together than 2½ feet.

Fertilisers.—In addition to the farmyard manures, seaweed, artificials and salt are good for the crop. Guano at the rate of 1 lb. per square yard, applied in May or June, is most helpful. An ounce of nitrate of soda or a handful or two of salt per square yard are highly beneficial. Those living near the coast will do well to use seaweed.

Forcing.—Forcing Seakale is a very easy matter, and one on which the novice may try his hand before attempting greater things. Perfect darkness is absolutely essential and the temperature should never be allowed to exceed 60° at any time, otherwise a thin, lean, wiry product is the result. A temperature of 45° is enough to start with, rising gradually to not more than 55°. Provided the heat is not too great, any pit or odd place can be used, and a warm cellar is particularly serviceable. The roots are packed in mould, leaves or half-decayed manure. After planting, a good supply of water is given and the boxes or receptacles containing the roots are placed in the required heat. Roots may be planted in pots or boxes and covered with another box or pot. Plants may be forced in the greenhouse. Slow forcing can be obtained out-of-doors by covering with flower pots or leaves. It is said to be a good plan to let the plants feel the cold before covering for forcing outdoors. Blanching late in the spring may be obtained by covering with pots. Plantations forced in the ground will last many years provided the old stems are cut down and the young shoots thinned properly.

General Notes.—Seedlings forming the permanent bed must have the soil removed from the crown early in March and all the shoots that subsequently follow must be rubbed off except one. Light manurial dressings during summer of liquid manure, soot, salt or guano help to form strong plants. Radishes and Lettuce may be grown between the rows of seedlings during the first season so long as the ground is not impoverished thereby. At the end of the season clear off decayed leaves. A bed of Seakale for ordinary purposes should last five to seven years. It is not as a rule wise to keep a bed longer. The shoots of Seakale are ready when 6 inches high. Cut with half an inch of the stem base attached. Plants that have been covered should be given a little light when [illegible] have been removed. L. M. MARSHALL

RAISING EARLY TOMATOES

How to Manage the Tender Seedlings Through a Critical Stage in Life

THE SEEDLINGS ARE PRICKED OFF 1½ INCHES APART IN BOXES.

READY FOR THEIR FIRST POTTING.

WHERE a temperature of 65° can be maintained in the greenhouse during cold winter weather, seed for an early supply of Tomatoes may be sown at once. Assuming that a dozen or two plants will suffice for this purpose, a couple of 5-inch pots would answer very well as seed pans. A few broken crocks and a little fibrous material, such as the coarse siftings from leaf-mould, would make a suitable drainage; and finely sifted leaf-mould in a thoroughly decayed condition, made porous with a free admixture of silver sand, is an excellent compost for raising strong, vigorous seedlings. Let the pots be filled to within about half an inch of their rims with the fine soil, press moderately firm and make the surface perfectly even. The seed should be sown evenly and thinly over the surface and covered to the depth of about a quarter of an inch with the fine soil. Water with tepid water through a fine rose, cover with a sheet of clean glass, and place in the warmest part of the house. In about seven days the seedlings will be through the soil. The pots should then be placed in the lightest position possible, the glass covering raised, and entirely removed as soon as the seedlings stand erect.

From now until their rough or proper leaves appear is a critical stage in the life of these tender seedlings. The slightest error in their management at this period is likely to prove fatal to the stock. A temperature falling below 50° during a spell of severe weather proves a severe check, and if prolonged will end in the damping-off of the seedlings; a close, stagnant atmosphere, caused through insufficient ventilation, or a draughty position near open ventilators, will likewise end in failure and disappointment. Important points to observe are that an even temperature round about 65° should be maintained; a wholesome, buoyant atmosphere preserved by the judicious admission of air on all favourable opportunities, particularly during sunny and mild periods: and even on cold, wet days the ventilators should be slightly raised for an hour or two to admit a change of air within the house. It is important, however, that the position of the seedlings should be at a sufficient distance from the ventilators to ensure their freedom from draught.

The seedlings must be pricked off early, into boxes, as illustrated, or small pots filled with light, rich soil, similar in nature to that advised above for sowing, but with a small proportion of light loam or sandy garden soil added. Give sufficient water to thoroughly moisten the whole of the soil in each pot at least once a week, and water the surface every two or three days, if necessary. When these small pots are filled with roots and the plants have grown into strong, sturdy specimens, they may be potted on into 6-inch or 7-inch pots. The soil for this purpose need not be passed through a sieve or riddle; simply break up the rougher portions with the hands and throw out pieces of stick and stones from the leaf-mould. Equal portions of leaf-mould, light fibrous loam, and one-sixth part of thoroughly decayed hotbed, or last year's stable manure, with a fair proportion of silver sand makes a good compost for this and for the final potting.

Hardening.—The plants should be staked early to prevent their falling over and becoming weak in the stem. When they have attained a height of about 15 inches they may be gradually inured to the following hardening process, which leads to greater productiveness: Stand the plants well apart on a bench or stage where they are exposed to the light on every side. For at least three hours in the middle of the day let them endure exposure to fresh air, excepting when an east or north-east wind prevails. Keep the atmosphere of the house as dry as possible, and allow the plants about once in ten days to become so dry at root that their leaves actually commence to droop when the sun has been shining on them brightly for a few hours. This renders the plants "hard," and tends to greater fruitfulness, but care must be taken not to carry the practice to excess. Shortly after they show signs of distress let the soil be subjected to a thorough soaking with water of the same temperature as that of the house, and withhold any further supply until the need becomes apparent by the points of their leaves commencing to droop; but when fruit is setting and swelling rapidly this practice must be discontinued and the plants never allowed to suffer through lack of water.

TOMATO SEEDLINGS READY TO BE PRICKED OFF.

The seed in this instance was sown too thickly

As soon as the flowers commence to open, see that they are properly fertilised by subjecting the stake to which the plant stem is tied to a sharp rap with a cane, as near to the flower-truss as possible. Providing the pollen is perfectly dry, this serves to dislodge and to disperse it like a cloud of golden dust, thus producing a perfect "set." This work should be performed as near to the middle of the day as possible and is only effectual after the house has been open an hour or more, so that the flowers are quite dry.

When several fruits are set on the first truss the plants may be planted in their final quarters. If they are to be fruited in pots, those of 12 inches in diameter are very suitable. In the final potting the soil should be made quite firm about the roots, and, to allow for watering and top-dressing, the pots should not be quite filled, a space of at least 2 inches being left beneath the rim of the pots.

Feeding.—After the pots have become filled with roots and the fruits are setting and swelling freely, feeding will be beneficial. Where obtainable, the drainings from stables or cow-houses may be diluted, one part manure to two parts water, and given twice a week. After a few weeks the strength of the manure and the frequency of the applications to the roots may be gradually increased until the manure is used in a "neat" condition and at every alternate watering. Where manure of the above description is not at command one or more of the advertised manures may be used to good effect. Clay's Fertilizer is a splendid 'feeder" for Tomatoes. Fowl-manure mixed with twice its bulk of fine, dry sandy soil makes an excellent top-dressing for the surface of the pots. To obtain

om Tomatoes in pots place slates or iron sheets n the staging occupied by the Tomatoes. On nese coverings place an inch or two depth of noroughly decayed manure and soil. The pots laced on this material will speedily result in nany roots traversing through the holes in the ottom and feeding greedily on the new-found tore of food, and a remarkable improvement in the ize of the fruit is the result. Additions of fresh oil and manure may be applied in this locality rom time to time throughout the summer.

Training.—To obtain the earliest and finest ruit careful attention must be given in training he plants to a single stem. To this end every ide shoot should be pinched out as soon as it an be handled, but the main, or leading, shoot nust be carefully preserved and tied securely o a strong stake or to the wire or trellis work ip which the plants are to be trained, until four or five trusses of fruit are set, when, in order to procure more rapid swelling and ripening of the earliest trusses, the growing point may be headed back, thus suddenly throwing the whole energy of the plants into the fruit. A second growth, breaking out in the course of a week or two, may be trained up in place of the first, to bear a later crop of fruit.

Lawnswood, Handsworth. D. JEFFERIS.

TOMATO TRIALS IN THE OPEN

And the Lessons they Teach

TOMATOES produced a poor crop last season compared with the bumper one of the preceding year. The North was not peculiar in this respect, for from a letter received from one of the largest and most famous growers in Ayrshire I learn that he experienced the worst season on record, owing to the lack of sunshine. The best month of the year was October, when the plant-world was preparing for its winter sleep. Here in the North of Scotland it is our invariable custom to sow a few seeds directly the New Year is ushered in. The following varieties were tried: Kondine Red, Ailsa Craig, Merrivale, Sunrise and Balch's Gem. The first three received an award of merit from the Royal Horticultural Society after being grown at Wisley. They are all first-rate. The plants were put into their fruiting quarters the second week in March, which was a fortnight earlier than usual. The soil employed was a mixture of good turfy loam, well decayed manure, leaf-mould, sand, lime and an abundance of charcoal. The house they grew in is an ideal one, with the beds of soil 1 foot deep. Progress was very slow at first, as the weather was bitterly cold and dull. The leaves assumed a bluish colour, which did not disappear until warmer conditions prevailed. Not a trace of disease was observed from first to last. Air was given on every favourable occasion. Kondine Red was again the most prolific bearer. In its early growth it is apt to throw fasciated flowers. These should be picked off when seen, otherwise the fruits will be badly shaped. I believe it is the most popular variety in Guernsey, and a friend writes me that he has found it the heaviest cropper in the open air in North Kent.

If anyone wishes to grow a perfectly formed Tomato, I would strongly recommend Balch's Gem. It is a sturdy grower, short-jointed, and the fruit is of medium size.

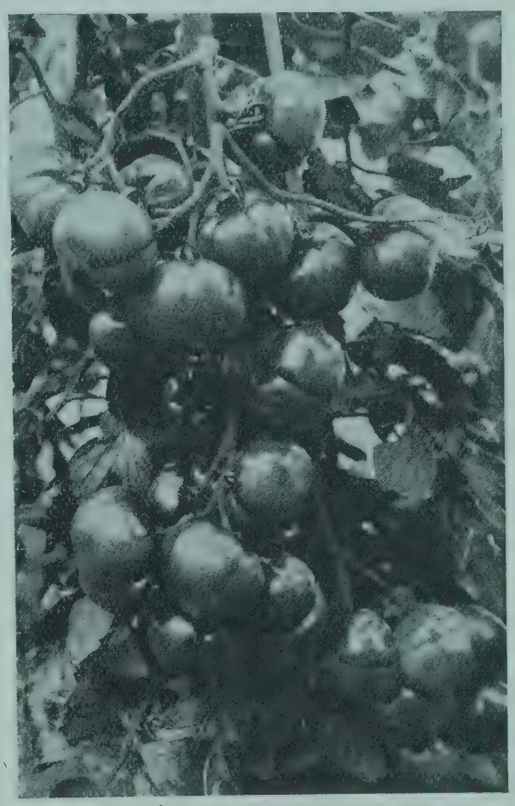
Seeds should be sown at once if plants are [illegible] for growing in the open. Even in this cold locality moderate crops are obtained by putting *strong* plants out in June against a warm wall. An enthusiastic amateur picked ripe Tomatoes on October 29 last year. He took great pains to cover the plants with strong canvas both at the beginning and end of the season whenever there was the least sign of frost. The varieties were Kondine Red and Sunrise, which for outdoor planting cannot easily be beaten.

Banffshire. JOHN G. WHITE.

CROPPING THE KITCHEN GARDEN

Rotation a Convenience: Repetition a Necessity

THE above heading, apparently definite, still keeps the question open, "Rotation or Repetition in Vegetable Growing?" and I think a definite answer cannot be given. A qualifying statement such as "circumstances alter cases" also explains, but does not answer. The question opens up a field which has not been fully surveyed, yet at the present time information on the matter would be useful in gardens.



TOMATO KONDINE RED.
Again the most prolific cropper in open air trials.

I have faith in rotation cropping for the sake of convenience, and not because of soil exhaustion or poisoning. I also practise repetition cropping by force of necessity, chiefly with Onions. The facilities for working out a system of cropping are not the same in every garden as contrasted by the kitchen garden of the mansion, the market garden and the allotment plot on a building site. The actual method adopted may be governed by several factors which vary in each garden.

1. The number of kinds of vegetable crops to be grown and the proportion of each required. Thus on some allotments Potatoes may occupy two-thirds of the area and part of the crop must be a repetition crop each year.

2. The actual condition of the soil as to depth, tilth and colour and the aspect of the garden in regard to exposure, light and shade. In some cases, especially the smaller gardens on clay soil, there may be only one portion which, owing to its open position and friable soil, that can be used for Onions. Because this one part has been prepared for Onions in the past, it may be better than the rest of the garden and it is easier to further improve a soil that is already partly improved than to try to improve a new plot each season.

3. The fertility of the soil may in some cases be so high that any crop will grow upon it, and one kind may be repeated indefinitely if the richness can be maintained by heavy manuring, but in most cases, and especially allotments, it is not safe to assume this high state of fertility.

4. The amount and kinds of manures available. With repeated cropping and high manuring a grower may be actually producing his crops by the manures added annually, only using the soil as a medium to hold the crop, manure and water. With most of us we manure the soil and not the crop; that is, we try to make up the deficiencies of the soil in its power to support the crop we require. With the supplies of potash rather short we have to rely largely on the soil to supply this.

When growing vegetables for a balance on the right side, expenses low, receipts higher, the question of successional cropping, manures, condition of the soil and crop required, act as the ruling guide. So we get rotation cropping as a convenience, as in the case of root crops and Onions after Potatoes we have the soil brought into excellent root crop condition by the effect and, perhaps, residue of manures used for Potatoes, and the clean, well-worked ground brought about by the culture and lifting of the crop.

Peas and Beans after Celery and Leeks give us the same benefits. Broccoli after Peas and Beans, without digging, give us fairly firm, rich soil but not rankly manured. Autumn-sown Onions and Turnips after Broad Beans and Peas find benefits which fit them for the winter. Beet after Savoys find a partly exhausted soil which keeps them on the small and saleable size, and so on. To grow Celery and Leeks after Brussels Sprouts we have a firm soil for cutting the trenches which is partly exhausted and which will be greatly improved by the extra soil working and manuring.

The above examples are rotations of convenience and advantage rather than necessity. They illustrate one crop following another of a different kind fairly quickly, either to benefit by the previous preparation, or to prepare the soil for the advantage of the crop which will follow. I do not plan rotations on the "natural order" or the "deep and shallow rooting" basis, as I find my proportions of the various crops are not equal.

A case where rotation comes as a real necessity is to dodge "clubbing" in Brassicas and also the Turnip gall weevil, and the Carrot-root fly.

The reason and advantage of repetition cropping is: Where all conditions are equally good and no other plot is equally suitable; and where the proportion of the crop or the few classes of crops grown necessitate it. Repetition does not [illegible] quick successional cropping, requires more manure, encourages pests and diseases and may, the[illegible] be more expen[illegible]

Madryn Farm School, Pwll[illegible]

The Earliest Flowering Saxifrages

Treasures of the Alpine Garden and How to Grow Them

BE it what it may—Snowdrop, Winter Aconite, Coum Cyclamen or Saxifrage—all are welcome to the gardener because of their early appearing; the more precious in his eyes for the pleasure and variety they afford, their hardiness and submissiveness to cultivation in this England of ours. And amid the earliest comers, named and unnamed, none are more daring than the Saxifrages, none more dainty, or fascinate the beholder in larger degree. None whet the gardening appetite so well, stimulate and extend the cultivation of alpine gardening as a whole, cheer us more in wintry days or raise higher hopes within by the knowledge of the greater feast which longer and sunnier days are wont to prepare, than the forerunners of this treasured genus. And what a treasure-house it really is, and how richly stored! How elaborate, too, the furniture, and how interesting to the collector! Gems of the choicest description, fitted for exclusive cabinets and necessitating the unremitting care of a vigilant guard; anon the larger—and may I say more utilitarian?—pieces, not always *en suite* perhaps, that occupy the more spacious apartments—read it "compartments" please—in every well appointed domain. And because of the important part these Saxifrages play and the rich procession the genus provides for months on end—species and varieties are really with us from January to June, and at intervals beyond—it is proposed seasonably to deal with some of the outstanding of them from time to time in order that readers may know them better and become greater sharers in the feast. In this connection

S. Burseriana (see accompanying illustration), true harbinger of the race and withal the most popular, calls for mention at once. Of the Kabschia or cushion group of Rockfoils hailing from the Southern and Eastern Alps its good attributes are many and without dispute. As a clue to its cultural needs or preferences it may be said that in nature it inhabits calcareous and dolomitic rocks, hence, generally speaking, a lime loving subject. Lover of the rock, rich and damp soil are frequently fatal to that success which is more permanently assured when these give place to river grit, crushed or disentegrated rock and quite a modicum of rather stiffish turfy loam. Of such, a fair depth with absolute drainage should be assured. Preferring partial shade, particularly in high summer time, it should ever be removed from the evil influences and effects of drip. These are fatal. No species of the genus contributes greater variety; none provides a lengthier flowering chain. My first flowers of the major variety greeted me at Christmas time; many more have appeared since. 'Twixt these and S. B. macrantha, with scarlet stems and calyces and white flowers in April, there will be many more. All the varieties of Burser's Saxifrage are white flowered, some sparkling and lustrous, occasionally, as in the true major form, emitting a Meadow Sweet like fragrance. It is, however, the pure white, solitary, often shilling-large flowers on 3-inch high stems above spiny cushions of grey which appeal, rendering it choice if not supreme amid them all. Accorded the treatment indicated above it is amiably disposed, yielding of its beauty a hundred fold if increased periodically from cuttings. Marked varieties of it, other than those named, are Gloria, speciosa and tridentina. The "grandifloras" occur, too, with some frequency, though the undue multiplying of varietal names is not desirable. What is much to be desired is a Gloria having a sparkling white petal instead thin-petalled Gloria of to-day. Collectors, importers and seedling raisers might remember this. Deserving of mention with the more distinguished is S. B. sulphurea, a lovely and

SAXIFRAGA BURSERIANA.
A cushion Saxifrage that prefers limestone rock.

shapely thing, with rich cream flowers on scarlet stems. Though virtually of the Burseriana set, having Faldonside blood in its veins, it is strictly a cross bred. It gained distinction in 1918 and may be regarded as very choice. Well known and highly regarded is

S. apiculata (see accompanying illustration), a hybrid of rochcliana and sancta, is a plant for everybody. Amiable, vigorous and perhaps the most prodigal bloomer of the race, it may be grown on level ground, colony fashion on rockwork, or on occasions form a fringe or provide a margin to other things and is seemingly happy in all. For the amateur or beginner therefore, so accommodating a sort is well worth while. Precocious in its flowering and occasionally yielding blossoms in autumn and winter, it is at its best perhaps in March in normal seasons. Sharp spring frosts following a mild January sometimes play havoc with its flowers, the wholesale loss of which may be prevented by sticking in foot high sprays of Yew or like thing about the patches for protection. There is more than one form of the plant, though two have pale yellow flowers in clusters. In that earliest to flower the peduncles (stems) are weak, the trusses at flowering time tumbling over. In the later flowering form this defect is not present. There are also at least two white flowered varieties (sports), equally desirable as the original and, whether in alpine house or garden, capable also of playing a goodly part with the best.

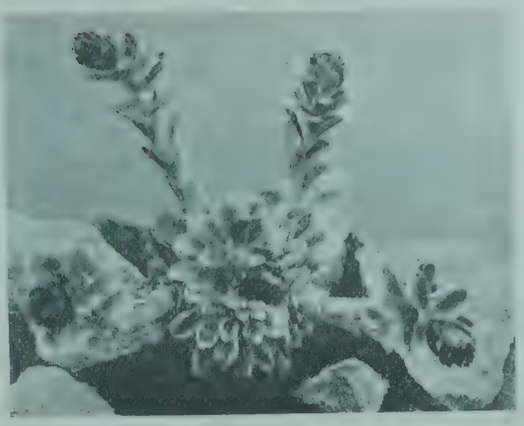
S. Grisebachii (also figured), to-day, is something apart, at once a species of distinction and merit. Witness of these and of its early flowering is the fact that when first exhibited in February, 1903, by Messrs. Robert Veitch and Sons, it promptly gained a first class certificate. Obviously there are first class alpines as well as first class other plants, this Macedonian Saxifrage being one of the former. At its coming it was in the nature of a revelation, attracting everybody. No choice alpine was more

SAXIFRAGA APICULATA, THE MOST FLOURISHING OF ITS RACE

events have proved. The nodding crimson flowers have golden stamens arranged in a hairy, spicate, club-ended inflorescence. The stems are often coloured, the bract-like leaves tipped dark green. Its silvery rosettes of leaves, 2 inches to 3 inches across, have marginal spots of white, a rare combination, befitting a distinguished plant. An easy doer, succeeding in grit and loam and perfect drainage; the amateur who will give it these need have no qualms. Though a true perennial, its finer effects are the result of treating it on the biennial plan, the plants flowering in the second year from seeds. That is at once a good method culturally, as also a prolific source of increase, provided care is taken and artificial pollination resorted to. That grown at Wisley, all raised from a solitary example I believe, I have ever regarded as superior, and though in nature there are not wanting evidences of variability in the species, that appears to come fairly true. In any case, whether in alpine house or rock garden, it is an indispensable. Then dainty and fascinating is the so far inimitable

S. Irvingii, as bewitching a morsel of alpine vegetable life as ever saw the light of day. It originated at Kew, from the presumed crossing of S. Burseriana macrantha and S. Frederici-Augusti and is named in compliment to Mr. Walter Irving, Chief of the Hardy Plant Department there. From the first it captivated every lover of alpines and many besides have idolised it. No hybrid ever reached the top rung of popularity's ladder earlier; none merited the distinction more. Its pink tinted flowers, good evidence of the cross, appealed to all. Virtually it is a tinted, earlier flowering S. Burseriana macrantha. And how prodigal of flowering, the large blossoms almost obscuring the tiny plant from view. In flower it is but an inch or two above the pot, a gem for the alpine house in pans accordingly. Periodical increase from cuttings suits it well, the flowers larger and more abundant in consequence. Propagation, too, is a measure of insurance to it and all others with Burseriana blood in them. In the rock garden a raised place is best, strewing the ground with granite chips or other suitable thing in order to avoid disfigurement of the flowers. S. Kellereri is also in flower and has been for a week or two, but of this and other early comers more anon.

E. H. JENKINS.



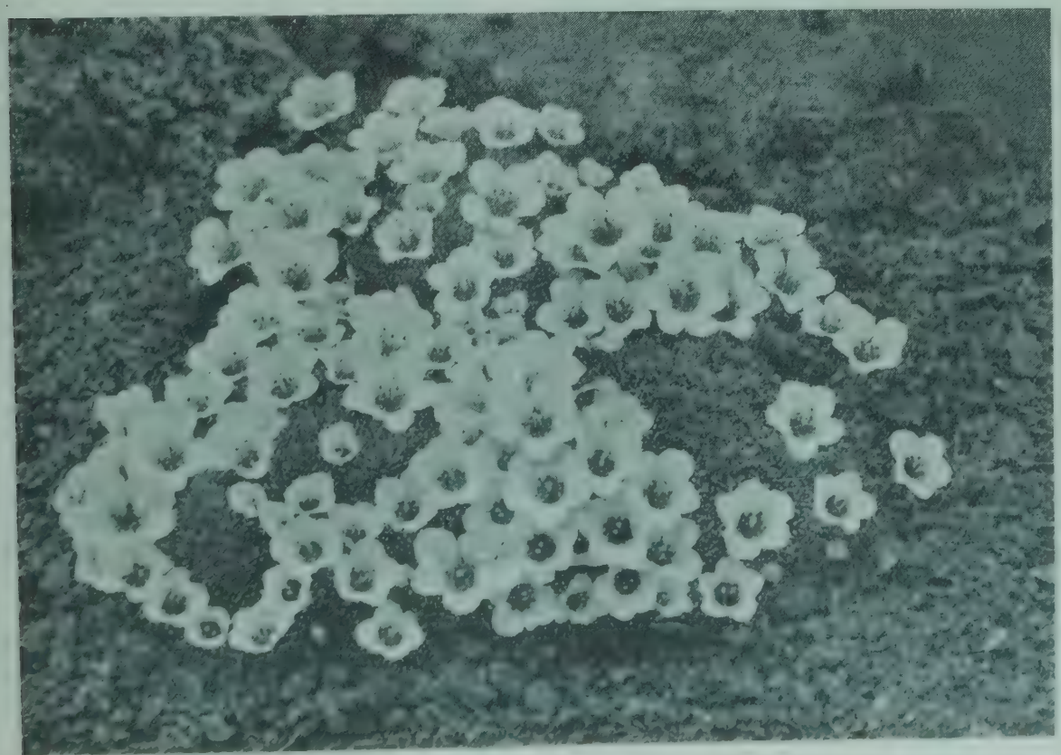
SAXIFRAGA GRISEBACHII.
From the Balkans.

BOX AND OTHER EDGINGS

OLD world association is one thing, and a good one; effective cultivation and display of herbaceous plants and flowering shrubs are another. I know the famous garden at Levens very well, whereof an illustration is given in your issue of February 5. It is a perfect survival of the style fashionable in the seventeenth century, the borders remaining in exactly the design prepared for Colonel Graham or Grahme, as he chose to write his name, by M. Beaumont, who, as is recorded upon his portrait at Levens, laid out Hampton Court Gardens for James II. The preservation of such an example is of incalculable value to all garden lovers, but I cannot think it is a model which it is desirable that lovers of fine plants should follow. The chief feature in this pleasaunce is the extravagance of topiary work, scores of Yews and Box carved into a multitude of grotesque designs, among which the flower beds are fitted like pieces of a jigsaw puzzle, each within a heavy border of Box. Here we have the full glamour of association with a distant past, and all the charm inseparable from it; but any attempt to reproduce the style in a modern garden (and attempts of the kind have been made) is doomed to the same depressing result as, in my humble judgment, attends the imitation of Japanese gardens in this country.

Perhaps I am prejudiced, holding as I do that a flower garden is a place for the production of the greatest possible number of the choicest flowers and their display to the utmost advantage. Heavy Box edgings I regard as a hindrance to attaining this end. It is true that at Levens the borders are gay at certain seasons with Tulips, Phloxes, Gladiolus, Pentstemons and so forth; but I know that "Formakin," who advocates Box edging 18 inches or 2 feet high (page 67), aims at something more than the ordinary garden furnishing. Many of the choicest flowering herbs, especially those of spring, are of humble stature. Anemones, Squills, Winter Aconite, and Iris reticulata, must lose half their grace if imprisoned within such barriers. May I suggest to him a method of separating a flower border from a gravelled path which we have adopted here with such satisfactory result that we carry it a bit further every year. The edging of our borders was originally a grass margin about 18 inches wide. This looked well enough, but was troublesome to mow, and was constantly sending runners of Couch among the plants. We now lift the turf and store it for loam, trench the line of demarcation, adding such soil as is required, limey or otherwise according to what plants are to form the future edging. Upon this soil we lay large rough stones, weighing, say, 25lb. to 35lb. each, which settle comfortably close together into the newly trenched ground. Of course, they look raw enough till something grows to cover their nakedness. The line is then planted with low-growing, free-flowering things, allotting to each species a liberal length of edging all to itself. The following are plants which ensure a charming effect: Mossy Saxifrages, red, pink and white; Prunella grandiflora, purple or crimson (the variety Webbiana is richest in colour); encrusted Saxifrages, especially S. Aizoon rosea; Saxifraga Andrewsii, Campanula portenschlagiana, Phlox subulata and other dwarf species, Aubretia, Geum Borisii, a priceless species carrying erect its brilliant orange flowers from May to December; Gentianella, whereof the only defect is that it requires lifting and dividing every fourth year, else it gets too closely matted to flower strongly. The same applies to Double Daisies, red or white. Several kinds of Dianthus are most suitable, both florists' varieties and such things as our native Maiden Pink (D. deltoides) and D. neglectus, which is easily raised in quantity from seed. Most of these plants grow rapidly, covering the greater part of the stones, of which the projecting parts soon get Moss-grown.

But now comes the special merit of an edging on this plan. Close behind it, within the border, a row of bulbs should be planted—Crocus, Squills, Narcissus (minor and Bulbocodium), Dog-tooth Violets of several species, and Ornithogalum nutans, which will increase year by year in richness and come up freely even if the edging plants overrun them. No one has realised the extraordinary beauty of which Scilla sibirica or Chionodoxa gigantea are capable who has not seen them grown in this manner, undisturbed for many years. Aubretia, dwarf Phloxes and mossy Saxifrages will invade the gravel path; to what extent, if any, that will be allowed depends on the character of the gardener and the taste of his employer.



SAXIFRAGA IRVINGII LITERALLY SMOTHERED WITH PINK-TINTED FLOWERS

EARLY, MAINCROP and LATE POTATOES for 1921

Grow Heavy Cropping Varieties which Possess Good Table Qualities

WITH the huge number of varieties now on the market it is difficult for those with little knowledge to select the most suitable sorts for their purpose. Varieties, too, differ in the manner in which they succeed in the various kinds of soil in which they are planted. Individual requirements, also, vary so much that certain kinds are quite useless for one, where the same sort answers exceedingly well for another. Some varieties, too, crop heavily but are inferior in their cooking qualities, and where table requirements of the highest class are the chief consideration, such inferior sorts are useless. I am a staunch believer in growing a variety that has prominent cooking qualities even if the crop is distinctly less in bulk. For this reason I have made my selection of varieties accordingly, ignoring the bulk that some sorts produce as the main factor. From a market point of view, of course, bulk is a salient point and one which must be considered. Where, however, bulk with quality can be combined, I have taken these principles into my selection.

EARLY VARIETIES.

Early Queen.—This variety was sent to me about three years ago by a friend in the North; he was unable to say anything of its origin. In shape it is somewhat like May Queen, shorter, perhaps, in the tuber, handsome in the skin, a good cropper, especially quick in maturity and excellent in quality.

May Queen is a great favourite of mine, especially in the heavy soil of this garden; a prodigious cropper, not too strong in growth, the quality is all that can be desired in an early Potato. Not only is it excellent when lifted, but it retains that feature for a long period; its quickness to mature is also a point of advantage.

Midlothian Early is especially high in its cooking qualities, of medium growth, an excellent pot or frame variety.

Alnwick Seedling I grew last year and was well pleased with the result. The tubers are handsome in their kidney shape, the crop heavy and the quality superior, the flesh white.

Sharpe's Express is a favourite among market men for its quick return, high quality and heavy crop. For small gardens, too, in general soil this is a desirable variety.

Epicure among market-growers is the Potato for early use; it comes exceptionally quick to maturity, which is a distinct point in its favour, not only because it can be sold early, but enables a second crop to be planted on the same ground. Beyond all this it is a prodigious cropper. As to its quality at that early stage I have little to say in its favour, but kept until July or August, the quality is then good.

MAINCROP OR MID-SEASON VARIETIES.

Warwick Castle is my ideal of a Potato for this section. Heavy cropper with round, shapely tubers, flesh white, mealy and of superb flavour. Friends of mine grow this variety as their mainstay.

McPherson is a variety I have grown recently in the field and I am much pleased with it in every respect, especially in the cooking quality of the tubers. Of its origin I know little. In shape it reminds one of British Queen.

Majestic I recommend strongly for the market man and also for those with a small garden, as it produces a huge crop of large, shapely tubers of fair quality; this, of course, varies in soils, as many large-growing varieties do.

Windsor Castle is still a favourite for private use, in quality and crop; for exhibition it is second to none. In some seasons it is more addicted to disease than many sorts.

Arran Comrade is earning a high reputation for heavy crops, good shape and high cooking quality. In numerous trials in this country it was the most successful among ten varieties.

ARRAN CHIEF FROM SEVEN POUNDS OF SEED.

Arran Chief is a favourite with growers on a large scale, cropping heavily, cooking well and keeping in good condition over a long season.

LATE VARIETIES.

Gordon Castle, from my experience, is quite one of the best of varieties for late use. The crop is very heavy, the tubers shapely, with that russet-like skin which betokens high cooking quality.

Scottish Farmer as a garden and field variety is excellent, crops well, the tubers keep firm in flesh, while the quality is all that could be desired.

King Edward as a late variety is a favourite in most districts and will probably make more money than any other sort. As a garden and exhibition Potato it is desirable.

Up to Date appears to have lost its hold upon the general public, the constitution having probably weakened. For home use the quality is of the best, and for exhibition it is still one of the leading varieties among late sorts.

Bloomfield is a new variety I am growing this season, of the Abundance type, and said to be a heavy cropper of excellent quality.

Swanmore, Hants. E. MOLYNEUX.

Potato Arran Chief on Light Soil

ARRAN CHIEF POTATO is so often recommended for medium and heavy soils that it may come as a surprise to many to know that it is capable of producing a heavy yield in hot, dry sandy ground. Last year many varieties of Potatoes made too much growth at the expense of tubers, but Arran Chief turned out as well as any. A trial of seed tubers from Messrs. Barr and Sons were planted in March in rows 2½ feet apart and 18 inches between the sets. The tubers were planted with a spade in shallow trenches with very little manurial aid. As Arran Chief is a strong grower, it would be advisable to allow 3 feet between the rows on richer soils. The produce of 7lb. of seed, planted whole, turned the scale at 107lb.—not a bad yield when we take into consideration the very light and dry nature of the soil. Practically all of the tubers were of useful table size; in fact, there were very few small ones. As most readers are aware, Arran Chief is a good quality Potato of the white round class, producing tubers with white mealy flesh. It is well to know that this variety resists drought and will give fine results on dry soils.

Vegetables to be Judged

According to their Fitness for Table Use

AFTER all the correspondence there has been in our pages on the size of exhibition vegetables the following ungarnished letter from the President and Secretary of the Royal Horticultural Society, Vincent Square, Westminster, S.W.1, will be read with interest and approval by many: "Vegetables are grown primarily to be eaten, and yet anyone who has attended shows where vegetables have been exhibited must have noticed that size has often been preferred to quality. Size in itself is not necessarily a defect, except in such cases as that of the Vegetable Marrow, which loses so much of its flavour unless it can be cooked whole, but no one can deny that huge vegetables are only too often coarse in quality and fail to represent the best product of the particular variety. It is, of course, true that when only a small area of vegetable ground is available to supply the needs of a family, quality may have to some extent to be sacrificed to quantity and it may be necessary to provide special classes for the cultivators of such small plots, but this will not apply to the majority of those gardeners whose vegetables find their way to horticultural shows. The Royal Horticultural Society has resolved to insist that at all its meetings vegetables shall be judged according to their fitness for table

ise and not merely by their size and external appearance. With this object in view it has been decided to ask the assistance of eminent chefs as judges in making its awards. It is not difficult to imagine what the decisions of such judges will be. For instance, Peas will be commended not so much for the large size and plump appearance of the pods as for the tenderness and number of the individual seeds contained in them. Carrots will have to be of moderate size and of that tender crispness which is lost in full-grown examples, while Cabbages which could be profitably used for feeding cattle, will no longer be tolerated. Since this decision of the Council of the Royal Horticultural Society will effect a change in the conduct of vegetable exhibitions, it seemed advisable that timely notice of the change should be given in order that growers may be fully prepared and not be disappointed when monstrous examples of this or that vegetable receive no recognition from the judges."

LAMBOURNE, *President.*
W. R. DYKES, *Secretary.*

A FAMOUS GROWER'S SELECTION OF VEGETABLES FOR 1921

Tried and Tested Varieties for all Districts

ROUND about this date most gardeners, both amateur and professional, will be more or less keenly studying the various seedsmen's catalogues that reach them through the post, with a view to selecting the seeds of such vegetables as they would choose to grow. Doubts and difficulties will arise, such as what sorts to grow, what to omit, which of two things to choose, which for light soil, and so forth, and a few notes from an old hand at the game may prove of assistance to many. Consequently, I will first deal with the kinds, journeying from the small kitchen garden, *via* the medium-sized one to the large, where practically anything can be chosen; noting first the bedrock requirements, and then the trimmings suitable for the larger ones. Thereafter I will add suitable varieties of each of the sorts, noting in one or two cases, where the soil is likely to greatly affect varieties, though I would here say that the question of light *versus* heavy soil is not of such moment as many would imagine. The aim of all cultivators should be to so work their soil that in time it will be a most useful medium type, which, in other words, means that the man with the heavy soil should take steps to lighten it by incorporating with it suitable material, while on the other hand, a man whose soil is of a poor, light, hot kind, should similarly break down the detrimental character by adding manure, that will reduce these disadvantages.

It must be understood that I do not note varieties to recommend them as those which should be grown without divergence, or without qualification, as I would again point out what I have so frequently before written, that varieties *do not* always do equally well in every district, and at times a variety which is a wonderful success in one neighbourhood is a very second-rate sort for another; therefore it is advisable for every grower to seek to learn which are the sorts and varieties that do really excellently in his own neignbourhood, and the newcomer to a place can usually glean much information on this point from the older dwellers of his district. The varieties I shall name are, however, tested and tried varieties, likely to generally prove a good success.

The other important matter is to get the soil into the right condition by proper cultural methods, embodying deep working at the right time, enrichment with proper manures where required, liming, &c., where soil is sick or acid, and drainage where it is heavy and likely to get more or less waterlogged. [We would like to add a word here, and say how beneficial it is, especially to Peas, Beans and Potatoes, to apply a sprinkling of Wakeley's Hop Manure along the drills before sowing and planting.—ED.] These are, indeed, important points, for unless the soil is in the proper condition even the best of seeds are likely to prove a failure.

Now for a selection of varieties. For an average small garden I would select the following, the proportions being very much a matter of choice for the grower, to be selected according to his needs and taste: Beans, both Broad and Runner; Borecole or Kale, Broccoli, Brussels Sprouts, Cabbages in variety for the different seasons; Carrots, a difficult vegetable on heavy soil and where possible best grown in holes bored with a crowbar and filled with light soil; Cauliflowers, Lettuce, Onions, Parsley, Parsnips, Peas, Potatoes, without which surely no kitchen garden would be complete; Radish, Rhubarb Savoys, Shallots and Turnips. To these add, where time and facilities permit, Celery and Leeks, which are two such favourite and useful vegetables and should be grown wherever it is possible; also the small gardener should always endeavour to do his best with Tomatoes, which can successfully be grown in the open, provided proper methods are adopted, and more successfully still if he possesses a small greenhouse or a good-sized cold frame.

CELERY IN PAPER COLLARS GROWING BETWEEN ASPARAGUS AT ALDENHAM HOUSE GARDENS.

A pretty formidable list, perhaps our friend the small gardener will remark, but if he considers it carefully he will notice that there is a range of vegetables over the whole year catered for in that list, and when he grows carefully and arranges for one crop to follow another, he will not find it so formidable as it looks, and will certainly have the benefit of a fuller supply than possibly he has ever had before, besides attaining a far better-variation of vegetable diet.

For the medium-sized kitchen garden I would suggest the addition of the following as being very useful Dwarf French Beans, Jerusalem Artichokes, Asparagus, Celeriac, Chicory, Endive, Seakale and Spinach, and I think that these comprise some of the choicest of the vegetable list for different periods of the year.

The cultivator of a large kitchen garden should certainly add to the two previous lists the following, which still further ring the changes of vegetable diet and prove welcome additions to the menu for various purposes: Globe Artichokes, Climbing French Beans, Capsicums, Cardoons, Chives, Kohl Rabi, Maize, Salsify, Scorzonera, Swede (garden sort). A careful observer will notice that there are a few that I have omitted from these lists, but I have done so where utility is a minor qualification with a particular vegetable, such as the Chinese Artichoke, or where it is a matter of personal taste, such as in the case of the pungent Garlic. Also I have dealt with very few herbs, as these should be found in greater or lesser variety in every well ordered garden.

Now for the naming of some of the tip-top varieties, in connection with which see the previous caution as to locality. The most useful course will be, I think, to note these down in alphabetic order, so that after having digested the selection of sorts, the would-be grower of these can turn to the following list to glean knowledge as to varieties:

Artichoke, Globe.—Green Globe.

Asparagus.—Connover's Colossal.

Beans, Runner.—Leviathan, Improved Green Longpod, Broad Windsor and Ne Plus Ultra.

Beans, French.—Canadian Wonder and Ne Plus Ultra.

Beet.—Selected Globe, Selected Purple, Cheltenham Green Top and Dell's Dwarf. For light soils Dell's Dwarf and Cheltenham Green Top are especially good.

Borecole or Kale.—Victoria Kale, Cottager's Kale and Labrador Kale.

Broccoli.—Snow's Winter White, Leamington and Model.

Brussels Sprouts.—Dwarf Gem and Aigburth.

Cabbage.—April, Ellam's Early and Flower of Spring for early work and following crops; Rosette Colewort for autumn; and Winnigstadt for late autumn and winter.

Capsicums.—Long Red and Long Yellow.

Carrots.—Model and New Intermediate.

Cauliflower.—Early Forcing, Magnum Bonum, Walcheren, Snowdon and Autumn Giant. On heavy soil Snowdon is most likely to prove one of the best varieties.

Celeriac.—Smooth Prague.

Celery.—Aldenham Pink, Invincible White and Standard Bearer.

Chicory.—Witloof.

Cress.—Extra Curled.

Endive.—Batavian and [illegible]

Kohl Rabi.—Early Purple Short-top and Early Short-top Green.

Leek.—Musselburgh, International and Prize-taker.

Lettuce.—All the Year Round, Superb Cos, Bath or Brown Cos and Hick's Hardy White.

Maize.—Country Gentleman.

Onion.—Ailsa Craig and James' Long Keeping for spring work; Mammoth White Tripoli, Red Italian Tripoli and Autumn Triumph for autumn sowing.

Parsley.—Exhibition Curled.

Parsnip.—Student, and Tender and True.

Peas.—Gradus, Duke of Albany, Quite Content and Autocrat. For light soil these will do equally well with the exception of Quite Content, which should be omitted.

Potatoes.—May Queen, Midlothian, Resistant Snowdrop, King Edward, Arran Chief and Arran Comrade.

Radish.—Beck's Scarlet and French Breakfast.

Rhubarb.—Victoria and The Sutton.

Salsify.—Sandwich Island Mammoth.

Savoy.—Green Curled, Drumhead and Early Ulm.

THE NEW LATE DESSERT APPLE LAXTON'S SUPERB.
First-class certificate.

Seakale.—Lilywhite.

Shallots.—Exhibition Red and Large Brown.

Spinach.—Victoria and Prickly. New Zealand Spinach will do well on light soil.

Swede.—Any good garden variety.

Tomato.—Sunrise and Bide's Recruit, excellent red varieties; and Golden Sunrise, one of the best yellows.

Turnip.—Early Milan, Snowball, Green Top and Golden Ball.

Vegetable Marrow.—Moore's Cream, The Sutton, Pen-y-bid and Long Green.

One vegetable which should have been mentioned is the Mushroom, and everyone who can make up a bed should grow these. Growers with the facility afforded by a Mushroom-house, a suitable cellar, or a good frost-proof shed can maintain a crop all through the year, while those who have not got these adjuncts can for a good period grow them on beds in the open.

In one or two instances it will be observed that certain vegetables are not included in the foregoing list, and where this is the case I would observe that the varieties are so few that there is very little to choose between them. In the case of the Jerusalem Artichoke I would urge the growing of the modern white sort in preference to the old-fashioned purple, as the white is far in advance of the older kind both in shape and quality.

E. BECKETT, V.M.H.

New and Rare Plants

FIRST-CLASS CERTIFICATES.

Cymbidium Dragon Fly.—A beautiful addition to a race valuable alike for decoration and utility and unequalled for staying powers, whether on the plant or in the cut state. The new-comer has blush-tinted sepals and petals, the lip richly dowered with crimson velvet and occasionally chequered white in fine contrast Handsome and distinct.

Sophro-Lælio-Cattleya Falcon (S. grandiflora × L.-C. aureole).—For brilliant colouring and size this tri-generic hybrid stands alone, a distinct advance on any of its class. Having a flower expanse of nearly 4 inches and coloured a brilliant scarlet under which or through which a subtle orange-coloured influence is readily seen, it is remarkable from every standpoint. In shape and colour the greater leaning is towards the Sophronitis, size being influenced by the other parents, as is also the foliage. These two remarkable novelties were from Lieutenant-Colonel Sir George Holford K.C.V.O., Westonbirt (gardener, Mr. H. G. Alexander).

Apple Laxton's Superb.—High tribute to the excellence of this new dessert sort is the fact that, gaining an award of merit in 1920, it has now been granted a first-class certificate. The newcomer resulted from the crossing of Wyken Pippin and Cox's Orange Pippin. Of fine aroma and the true Cox flavour, it keeps well into March and is rendered doubly valuable on that account. Several dishes of fruits in excellent condition were shown by the raisers, Messrs. Laxton Brothers, Bedford.

AWARD OF MERIT.

Lælio-Cattleya H. T. Pitt Fasey's Variety (C.-Enid × L.-C. Bella).—The sepals are rich rosy mauve bordering on cerise, the corrugated or tasselled lip of ruby crimson. A really telling bit of colour. From W. R. Fasey, Esq., Snaresbrook (gardener, Mr. E. J. Seymour).

Odontioda Athene (O. Crispum × O. Coronation).—A novelty remarkable for distinctness. The flower has a white ground bordered with cerise, the lip being also like coloured and having reddish blotches. Shown by G. W. Bird, Esq., West Wickham.

Brasso-Cattleya Gatton Snowflake (C. chocœnsis × B.-C. Thorntonii).—Save for the touch of rich orange yellow inserted in the base of the tube this chaste and beautiful novelty is white throughout. Finely sculptured, compact and of sparkling white, it appealed at a glance. Sent by Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, Mr. W. Collier).

Angulo-Caste × Cooperi (Anguloa Cliftoni × Lycaste cruenta).—The hybrid is characterised by soft yellow colouring throughout and is both pleasing and distinct. From Messrs. Sander and Sons, St. Albans.

Dendrobium Nobile Sir F. W. Moore.—A beautiful and striking novelty, richly coloured and free-flowering withal. Sepals and petals rosy cerise, rich in colour and good in form. The handsome lip is of like colour bordered with white, and a base of intense blood crimson. From Messrs. Armstrong and Brown, Tunbridge Wells.

Primula Etna.—The greatest advance in richly coloured Primula sinensis varieties seen for years, quite eclipsing the leaders in this set—Brilliant King and Crimson King—that hitherto held high place. Scarlet of an intensely rich shade underlies more dominant crimson tone, adding fire and life to the whole. The handsome trusses emerge from an appropriate setting of dark-coloured foliage. Admirably shown by Messrs. Sutton and Sons, Reading.

Carnation Thor.—An American-raised variety, we believe, and probably the clearest scarlet known. As was appropriately said of it, "it *is* a scarlet." It is not large, however, nor particularly full, and appeals rather by vivid and clear colour and moderate perfume than aught besides. From Mr. C. Englemann, Saffron Walden.

The Right Use of Lime

The Finest Form and How to Apply It

WITHOUT entering into chemistry or bacteriology, one of the most neglected problems to-day in garden, orchard and greenhouse is the use of lime. Writing from much experience on the subject of the value of using lime, it should be clearly instilled into the mind that science, with practice, has taught us "That the form in which lime is used is everything that matters." There is to-day, thanks to practice and science combined, a form of lime specially prepared for orchards or fruit plantations, for gardens, greenhouse work, and lawns.

Various Forms of Limestone.—Lime used in the right form and in the right way is more economical and efficient than the more or less rough and ready method adopted in using ordinary lime, which is usually very wasteful, and brings poor results. Lime should be used in a very fine, dry state, the finer and purer the better, in small quantities and often, instead of in bulky quantities at long intervals. I wonder how many gardens would be enriched by an occasional dressing at frequent intervals of lime in the right form? There are various forms of limestone in different parts of the country, many of which are very poor, besides in some cases being more injurious than beneficial to plant life. The chalk limes, for instance, are among the poorest in the country and the magnesian limestone is not suitable from a horticultural point of view. The finest limestone in this country for horticultural and agricultural purposes is the Buxton limestone. From this a specially prepared lime flour, known as Limbux, is now manufactured in the form of a pure hydrated lime, and without doubt is the finest form of lime in existence. At first sight its cost might appear excessive, owing to the poor, unsuitable cheap limes that have been on the market for so many

years. But Limbux, owing to its purity and fineness, is the cheapest and, in addition, the most efficient form of lime for all horticultural purposes. I wonder how much money has been wasted on liming in this country with hardly if any results.

The Base of Soil Fertility is Lime.—Soil becomes acid and sour for the want of it, thereby checking the growth of vegetable life, which becomes weak, thus exposing plants to attack from all kinds of diseases and insect pests both in and out of the soil. Plants or trees without health or stamina have not the same power to resist disease and insect pests as healthy, robust plants have, and which are only produced from soil containing the necessary proportion of lime.

Many soils are rich, yet acid and sour owing to a continual process of manuring without lime. Such soils contain any quantity of reserve plant foods in an inert form. It is far better in such cases to give the soil one, or better two, seasons rest from manuring and apply the right form of lime in its place. Besides releasing large quantities of potash, and assisting nitrifying bacteria, thus providing or placing a valuable source of supply at the disposal of the plants, lime also changes many poisonous compounds which are present in the soil, and renders them practically harmless to plant life. Attention given to regular liming in the right form, would produce far better results, with a considerable reduction in plant disease.

The Rate to Apply.—It is impossible to over-estimate the value of lime to heavy soils. Everything depends, of course, on the even methods of sowing (spreading) or incorporating with the surface soil. Three to five ounces of the best form of horticultural lime is sufficient to the square yard. Applied to stiff soils it aids the quick passage of water, and makes the surface more pliable and porous and less liable to cake or crust upon drying. Most heavy soils are rich in plant foods and lime releases this valuable reserve, greatly to the benefit of plant life, and much heavier crops are obtained.

Dusting Fruit Trees and Plants.—Limbux is also a form of lime specially prepared for dusting trees and plants against deadly pests. This refers to fruit trees, perennials, alpines and practically every kind of vegetable. Why be troubled with diseases and pests when science produces a natural element in the form of a prepared lime which can be used by dusting on the trees and plants at any period of the year. There would be far less cry of Potato blight and other plant diseases, caterpillars and other such pests, both in and out of the soil if more attention was paid to the use of lime, and it will certainly increase production in a very marked degree. F.R.H.S.

Primula stellata Fairy Queen Improved

This attractive variety received an award of merit when shown before the Floral Committee of the Royal Horticultural Society on January 25 by Messrs. James Carter and Co., Raynes Park, London. It is of pyramidal habit, embracing the floral characters of stellata. The flowers are white with a pale yellow eye, which is encircled

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Begonias.—The tubers which have been at rest should now be carefully overhauled with a view to gently starting them into growth. Place in boxes of sifted leaf-soil and sand, and give an occasional spray with tepid water. It is best not to bury the tubers at all until growth is nicely on the move, when more light soil may be added and the plants grown on in the boxes, or they may be potted up.

Salvia patens is quite one of the blue gems of the garden, being alike excellent in beds or massed on the herbaceous borders. The plants wintered in cool quarters are showing signs of growth, and should be boxed up or potted as desired and grown steadily on in cool conditions until planted out. Another Salvia of easy culture which is most useful for beds and borders is the variety known as Bluebeard. Sow seeds now in gentle heat and grow on quietly until the plants can be put out in May or June.

THE NEW PRIMULA FAIRY QUEEN IMPROVED. FLOWERS WHITE WITH A PALE YELLOW EYE.

Daphnes.—Some of these flower so early and are so delightfully sweet that groups of them are almost indispensable. Although not really fastidious as to soil, they seem to like best a nice free loam, and plenty of leaf-soil and sand with it. If a position can be chosen where some shade is given about midday, so much the better.

Clematis.—Where plants of the Jackmanii section were not pruned in autumn attend to it now. The Lanuginosa class must also receive attention, but it is not advisable to prune these quite as hard as may be done to the former section.

The Kitchen Garden.

Autumn-Sown Onions.—Where transplanting of this crop is practised, the work may be done at any time when the soil is in workable condition. Onions require a good depth of soil, and liberal treatment is generally well repaid. Where large quantities of small Onions are required early in the year for salads, it is well to make an August sowing specially for this purpose.

Spring Onions.—Those sown as advised in heat in January should, when sufficiently advanced (about 3 inches high), be pricked off into boxes filled with light rich soil. A portion may be potted up singly into 3-inch pots if preferred, and established in this way before placing out in permanent quarters.

Parsnips require a long season, and seeds should be sown as soon as condition of soil and weather allow. Make drills 15 inches apart and sow thinly. Should exhibition roots be desired, deep holes should be made with a crowbar at intervals of a foot, and after filling the holes with fine rich loamy soil place three or four seeds in each and afterwards thin to one.

Plants Under Glass.

Foliage Plants.—It is an exception rather than a rule to receive many enquiries for indoor foliage plants, the demand all being for flowering plants. Generally speaking, I think it is a move in the right direction, but at the same time it would be a distinct loss if "total prohibition" of our old foliage friends ever comes.

Crotons and Dracænas.—Where these are grown the present is a good time to overhaul the plants thoroughly. If an increase is necessary, this may be done by cuttings or by the method known as ringing, which is carried out by cutting the shoots about half through and in a slightly upward direction. Then bind round the incision with clean sphagnum, which should always be kept nicely moist until the tops of the plants are sufficiently rooted to sever from the parent plant. Essential points in cultivation are a moist, warm atmosphere, an open compost and good drainage.

Palms.—Like the foregoing, thorough drainage is necessary for these plants, and the present time is suitable for the potting and cleansing of them. The latter is very important, and is more easily accomplished by giving the plants a weekly spray of an approved insecticide. Always avoid over-potting these subjects.

Streptocarpus.—Seeds may be sown in well drained pots or pans filled with light soil, afterwards placing them in a warm, moist house for germination.

Fruit Under Glass.

Early Vines.—The disbudding and thinning of surplus buds and berries should always be in able hands if possible, for nothing is easier, through lack of experience, than to mar good prospects by the indiscriminate removal of either of these. Better to go over a house for disbudding half a dozen times than to remove too many shoots at once. Thinning also, more especially in early houses, is often overdone. H. TURNER
(Gardener to the Duke of Northumberland)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—During suitable weather a first sowing outside may now be made; we find Pilot and William I, the two most reliable varieties for early work. A light soil is preferable for this early sowing, but where the natural soil is clayey or pasty it may be helped by the addition of burnt refuse or wood ash.

Rhubarb.—Now that the crowns are showing signs of growth, anyone contemplating planting may do so with safety. Rhubarb is fond of a good exposure and responds readily to generous treatment; too often the Rhubarb bed is placed in some odd corner of the garden or under the shade of fruit trees but if choice stalks are wanted this is a mistake. The ground should be thoroughly prepared and given a good quantity of well decayed manure some time previous to planting

Fruit Under Glass.

Early Vines.—Growth in many cases should be far enough advanced to show the bunches and it can now be decided what to leave and what surplus to remove. Stop the laterals at the second leaf beyond the bunch. The temperature may now be increased from [illegible] to 60° by day and [illegible]° by night, with a general [illegible] conditions of the house. In [illegible] must be taken to do this [illegible] [illegible] early [illegible]

care, especially should the wind be from a cold direction.

Plants Under Glass.

Smilax.—This elegant climber will soon be starting into growth again, so should be split up into smaller portions and repotted into 7-inch pots; long trails being in demand the back wall of a vinery suits admirably, threads being run up to which the young growths will readily catch on. Seed may also be sown now and excellent results obtained in this way.

Allamanda.—This beautiful flowering stove plant should now be repotted and pruned back, allowing it to occupy a warm corner, so that strong growth may be encouraged.

Primula obconica.—To obtain the best results from these decorative subjects it is essential that an early sowing should be made. Sow in a shallow pan or box, watering before sowing and allow to drain off. Cover the seed very lightly, gently pressing the surface with a smooth board. Cover the seed pan with a piece of dull glass and germinate in a warm vinery or pit.

The Flower Garden.

French and Persian Ranunculus.—These richly coloured flowers make a fine display and are excellent for cutting, more especially where flowers have to be despatched by post. Beds for these should be completed without delay. Plant the tubers in drills 5 inches apart and 2 inches deep; the plants are partial to a fairly heavy soil and like an open site.

Single Dahlias.—There has been a general tendency during recent years towards the raising and growing of single flowers, and none seem to find more favour in this respect than the single Dahlia. From seed sown now, strong plants may be had ready for planting out in June The seedlings are most remarkable for the variety and brilliance of their colouring Sow in pans in an ordinary fine compost and when the seedlings show their second pair of leaves have them potted off singly into small pots and placed in a warm greenhouse. Care should be taken that the plants are not allowed to become drawn through being too close together. Harden off gradually before transplanting to a cold frame Old roots of named varieties may now be put into a warm pit and started, so that cuttings may be obtained.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, 20, *Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

EARLY SUMMER FLOWERS (*Brookside*).—Coreopsis grandiflora, Sweet Williams and Canterbury Bells are often used to plant lawn beds; to herald in, as it were, the more formal summer bedding. Mesembryanthemum acinaciforme cannot be considered perfectly hardy, as it only survives our winters in the mildest parts of the country, notably on the very favourable Cornish cliffs.

PRECOCIOUS FLOWERS, AND OTHER QUESTIONS (*V. C., Reigate*).—The Cheiranthus and Ionopsidium are spring and summer flowering subjects respectively; their flowering in winter time is in the nature of a freak. Precociousness and out of season flowering afford no general guide; they are dependent upon individual plant development and the season. Our correspondent will find the firm of Messrs. Robert Veitch and Son, Exeter, perfectly reliable to give his Devon friend all the help he needs. Established there many years, no firm probably knows the county better. Our correspondent will also find that firm's nurseries rich in good things and rare, indoors as well as outdoors.

GROWING NASTURTIUMS (*O. D. D., Hants*).—These would be quite suitable for chalk soils, and in these and poor soils do infinitely better than in richer soils. Dig moderately, but add no manure of any kind. Rich soils, promoting leaf growth, would ruin the prospects of a good flowering. Our correspondent should write to a good seed firm, such as Messrs. Sutton and Sons, Reading, who, with others, arrange the seeds of these annuals in a colour proportion in a special mixture. Poorly grown, the flowers overtop the leaves and give a wondrous procession of beauty for weeks on end.

THE GREENHOUSE.

LAPAGERIA ROSEA (*Felsted*).—This is a very suitable climber for a greenhouse heated sufficiently in winter to keep out frosts. In addition to the type with rosy crimson flowers, there are three beautiful varieties—alba, pure white; superba, crimson; and Nash Court variety, intense rich crimson.

TREATMENT OF AMARYLLIS BULBS (*Essex*).—Average size flowering bulbs of Amaryllis are grown in 6-inch pots; a size smaller may be used for seedlings and offsets, and 7-inch pots for extra large bulbs. Compost, equal parts turfy loam, peat, leaf-mould and coarse sand, adding a little old decayed manure. A similar soil will suit Begonias and Gloxinias, though if peat is not abundant, two parts loam may be substituted for the Begonias. Small bulbs of both may be grown in 5-inch pots; large bulbs in 6-inch pots; and the very largest in 7-inch pots.

TREES AND SHRUBS.

SEED OF TREE PÆONIES (*L. S. R., Herts*).—If the husks are soaked for a few hours it is probable that the seeds will be easy to extract. This method should be tried in preference to sowing the seeds in the fruits.

FRUIT GARDEN.

TRAINING CORDON APPLES AND PEARS (*Felsted*).—Our correspondent does not say whether the cordons are single or double. If the former 8 feet high posts would have been better; that is to say, provided the position is sheltered. If the cordons are double 6 feet will be all right. If they are single cordons they should be trained obliquely at an angle of, say, 36°. The 6 foot trellis will then suit them for a long time. The trellis should run north and south, if possible.

THE MORELLO CHERRY (*E. V., Nogent-le-Rotrou*).—"There are two species of Cerasus found wild in Britain; others are natives of Southern Europe. The Morello, Duke and Kentish varieties are supposed to have been derived from the Wild, or dwarf, Cherry (Cerasus Cuproniana), and the Geans, Hearts and Bigarreaus from the tall Wild Gean (Avium). They have been in cultivation from an early period, and whether the origin of all the varieties now cultivated is confined to these species or in part to others is not definitely known" (Nicholson). The Morello is easily grown and a prolific bearer. The fruit is not sweet; it is used for preserving, as a liqueur (Cherry brandy), and in other ways. Propagation is effected by budding or grafting on the Wild Cherry stock. This is obtained by sowing seeds and planting the seedlings in nursery rows in the usual way.

KITCHEN GARDEN.

TOMATOES FOR WINTER USE AND TO RIPEN IN MARCH (*T. J. R., Devon*).—By sowing at the end of June and growing the young plants on in pots in a sheltered sunny position out of doors; replanting into their fruiting pots at the end of August, still keeping the plants out of doors until the end of September. Such plants ought to yield a good supply of fruit up to Christmas if placed under glass at that time and assisted with a little fire heat during spells of cold weather. The fruiting pots should be 8 inches in diameter and fairly well drained, say, half an inch of broken crocks over the hole at the bottom. Use half turfy loam and half good garden soil, with a sprinkling of lime and bone-meal, mixing well together. In planting in the fruiting pots half fill the pots at planting time only, reserving the other space for top-dressing later. The price of coal for the heating of such big houses would more than swallow up any profit our correspondent might hope to make; moreover, useful imported fruits are freely offered at that time in our markets. Should our correspondent wish to make the attempt on a small scale, sow the seed about the middle of September, grow the plants in a cool temperature, and near the glass so as to keep them sturdy. Repot into their fruiting pots at the end of January and apply more heat.

MISCELLANEOUS.

VARIEGATED GRASS (*A. R. O. S., S. Devon*).—The grass described is apparently Dactylis glomerata elegantissima, which is in the list of Messrs. V. N. Gauntlett and Co., Limited, Chiddingfold, Surrey.

LEAF-MOULD (*C. A. W., Ross-on-Wye*).—It is not wise to use decayed leaves of Walnut, Horse Chestnut and Sycamore in quantity for pot plants, though they can be used safely out of doors. The reason they are unsuitable for pot plants is a mechanical one, for they do not exert the same opening effect upon the soil as leaves like Oak or Beech. The leaves of Oak and Beech form better leaf-mould than the leaves of other trees.

WEEDKILLER FOR PATHS (*R. R. F., Dorset*).—As a rule paths do not need dressing with weedkiller more than once a year in order to keep them free of weeds. It is a good plan to use the weedkiller on paths at the beginning of summer. If signs of weeds appear later in the year a second application should be made in autumn, but that is rarely necessary.

SWEET ORANGE MARMALADE.—In THE GARDEN of March 23, 1918, appeared an excellent recipe for sweet Orange marmalade, by Mrs. E. J. Beckett, Aldenham. Unfortunately my paper has got badly torn, and I wonder if you would kindly repeat it in THE GARDEN. It is really one of the best recipes I have tried.—N. H., *Weybridge.*

The recipe is as follows: Weigh the Oranges before boiling, and allow 1½lb. of sugar and two pints of water to each pound of fruit, adding one Lemon to every three Oranges. Boil the fruit in the water until a pin-head can be pushed into it quite easily. Take the fruit out of the liquid and carefully save the latter, adding the sugar to it to dissolve. On a dish cut up the boiled fruit very finely, removing the pips or anything hard, and then place it in the syrup in a preserving pan and boil quickly, stirring well until the preserve will set when tried on a cold plate. It can then be bottled down. In these times, when butter is so scarce, many people find this an admirable substitute on the breakfast table, and being so easily and quickly made, can be available to many.

NAMES OF PLANTS. — *Lady E., Hants.* — Cedrus atlantica, var. glauca.——*A. J. P., Somerset.*—1, Berberis Darwinii; 2, Pieris floribunda; 3, Daphne Laureola.

MRS. R. O. BACKHOUSE

IN MEMORIAM.

JUST when one was thinking and wondering what new marvels in Daffodils Mrs. Backhouse would be bringing to London and Birmingham, the news reaches me that she has passed away from us, and one gradually realises that even if we see her flowers, she, their maker, will no more be with them. Few of the famous raisers of new varieties were less known by the rank and file, for she seldom appeared on committees or at meetings, and it was not very often that she staged many flowers in public, but when she did, it was something like a revelation to see what was there. I fancy in her quiet way she loved to surprise us and this she certainly did at Birmingham in 1919 and at London in 1920. Those red cups and eyes which were the outstanding feature of last season's show will never be forgotten by those who saw them as being in their way the high water mark of Daffodil development—flowers as impossible to imagine a quarter of a century ago as Byron's "Roses in December and Ice in June." Whatever the fates have in store for these latter day marvels, Mrs. Backhouse's name will always be coupled with the Leedsiis. The Fawn, a giant Leedsii, is one of the best of all garden Daffodils. Then she is responsible for Czarina and Lord Kitchener and others equally good, but not so well known. She gained her first award in London with the epoch-making Moonbeam—a pure white, small type Leedsii—on May 7, 1901, and it is an immense loss to us Daffodil people to think that just when more honours for her flowers seemed imminent, she has been taken away. In 1916 she was awarded the Barr Cup for her work among the Daffodils she loved so well and which, with her genius for hybridising and seedling raising, she made so much of. Other flowers attracted her, for she was catholic in her tastes. How well I remember her little exhibit of Hyacinths at Vincent Square, when all Dutch bulbs were prohibited from coming into the country. "Where did you get these?" "They are my own raising. I have quite a good number." The flowers staged were good. It made me think of what Justice said more than a century ago. "How is it we don't try to raise Hyacinths in Britain?" I wish he could have seen Mrs. Backhouse's. Our sympathies go out to her husband in his great bereavement.

JOSEPH JACOB.

To all English flower-lovers, certainly to all lovers of the best and most essentially English flower of spring, the death of Mrs. R. O. Backhouse will have brought a sense of irreplaceable loss. As the Daffodil took much of its beginnings from the brain and hands of her predecessor of the same name, so it certainly culminated in hers. Those who were privileged last April to compare the contents of the Royal Horticultural Society's Hall at large with her one small stand will have discerned the wide gap between talent and genius. Let us hope there are flowers *there*.—C. H. P.

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NOTES OF THE WEEK

[February 26, 1921

EACH year as its flowering season comes round the Cornelian Cherry (Cornus Mas) is sent to this office for identification. The unfailing regularity with which it arrives from all parts of the country is due, no doubt, to the fact that it is very conspicuous early in the year when most other trees are still dormant. Cornus Mas, or mascula as it is sometimes known, is a very showy early-flowering shrub of large size. More often at its best during February, the bushes were a mass of yellow blossoms, fully open in mid-January this year. The Cornelian Cherry can be trained into a small tree, but is more often seen as a tall spreading shrub 10 feet to 20 feet in height. Flowering early in the year, the blooms are usually damaged, hence the bright red fruits are seldom seen in any quantity. Cornus Mas thrives in most soils.

The Yellow Crocus.—When reading that interesting book, "Flowers and Gardens," by Forbes Watson, a few evenings ago, we came across the following passage on the Yellow Crocus, which, although written in 1872, is none the less true to-day: "This is one of the many plants which are spoilt by too much meddling. If the gardener too frequently separates the offsets, the individual blooms may possibly be finer, but the lover of flowers will miss the most striking charms of the humbler and more neglected plant. The reason is this: the bloom when first opening is of a deeper orange than afterwards, and this depth of hue is seemingly increased when the blossoms are small from crowded growth."

Early Roses in Pots.—Cold draughts are one of the greatest enemies to early Roses, and the airing of the houses or pits devoted to them should always be carefully managed. When pot Roses are grown in conjunction with other plants they should be so arranged that plenty of light may reach them and not be subjected to too much moisture. Where buds are swelling an occasional stimulant may be given, providing the bushes are well supplied with roots.

Two Good Autumn Plants.—Salvia splendens and S. Pitcherii are well worth growing where large batches of flowering plants are required for the conservatory. Both are of easy culture, and cuttings inserted now will make fine plants by autumn. The glowing

THE CORNELIAN CHERRY
An early blossoming shrub which provokes many enquiries

effective with an early batch of Arums, while the more subdued Pitcherii with its lovely shade of blue may be used with good effect among other subjects. To make large specimens the old plants of Pitcherii should be shaken out and grown on again. These Salvias revel in a rich soil, especially when grown in pots. Loam and manure in about equal parts suit them admirably.

Dwarf-flowering Oleanders.—In the Revue Horticole for the month of December there is an account of three new Oleanders of so dwarf a habit that, cut back, they flower freely in small pots and are now grown for the market in the West of France. The tall and straggling growth of the Oleander prevents many garden-lovers from trying to grow it in their small houses or gardens; so M Georges Morin, who gives such a good report of three seedlings of this free-flowering and dwarf variety of Oleander in his garden at La Rochelle, will deserve our best thanks if these three new sorts—Rochelais, Botaniste Faideau and Aunissien—prove amenable to English ways and English summers that are too often a missing quantity. Aunissien seems the freest, but Botaniste Faideau the finest flower.—E. H. W.

Trees and Shrubs With Variegated Foliage.—When selecting trees and shrubs for planting it should be borne in mind that a certain number of plants with variegated foliage add beauty to the garden. There are so many species that have forms of this nature that it should be an easy matter to make a selection. It may be valuable information to some of our readers to know that a much better effect is obtained if the golden variegated forms are planted in full sun, planting the silver variegated ones in the shade.—F. G. P.

The Value of Beech Hedges.—Although there are a host of plants suitable for making hedges, few subjects are more effective at the present time than well grown Beech hedges. In a dwarf state the leaves of Beech remain on, and for that reason they are valuable as a protection for plants from cold winds, as well as giving a rustic and somewhat warm appearance by their brown, dry leaves during the dark dull days of winter.

A New Runner Bean.—The subject of our illustration on the front cover of this issue depicts the New Exhibition Runner Bean sent out by Messrs. Webb and Sons. It is one of the finest of its class, being of very strong growth and a prolific cropper. The handsome pods are long, straight and of fine quality. For exhibition purposes it is said to be unrivalled.

Chelsea Show, May 24, 25 and 26, 1921.—In order to assist nurserymen who wish to prepare rock gardens and other exhibits for the open air at Chelsea, the Council of the Royal Horticultural Society is prepared to consider early applications for space. Forms of entry can be obtained on application to the Secretary, Royal Horticultural Society, Vincent Square, Westminster, S.W.1. Spaces will be allotted as soon as possible after this date.

FORTHCOMING EVENTS

March 1.—Royal Caledonian Horticultural Society's Meeting.

March 5.—Gloucestershire Root Fruit and Grain Society's Annual [illegible] Meeting.

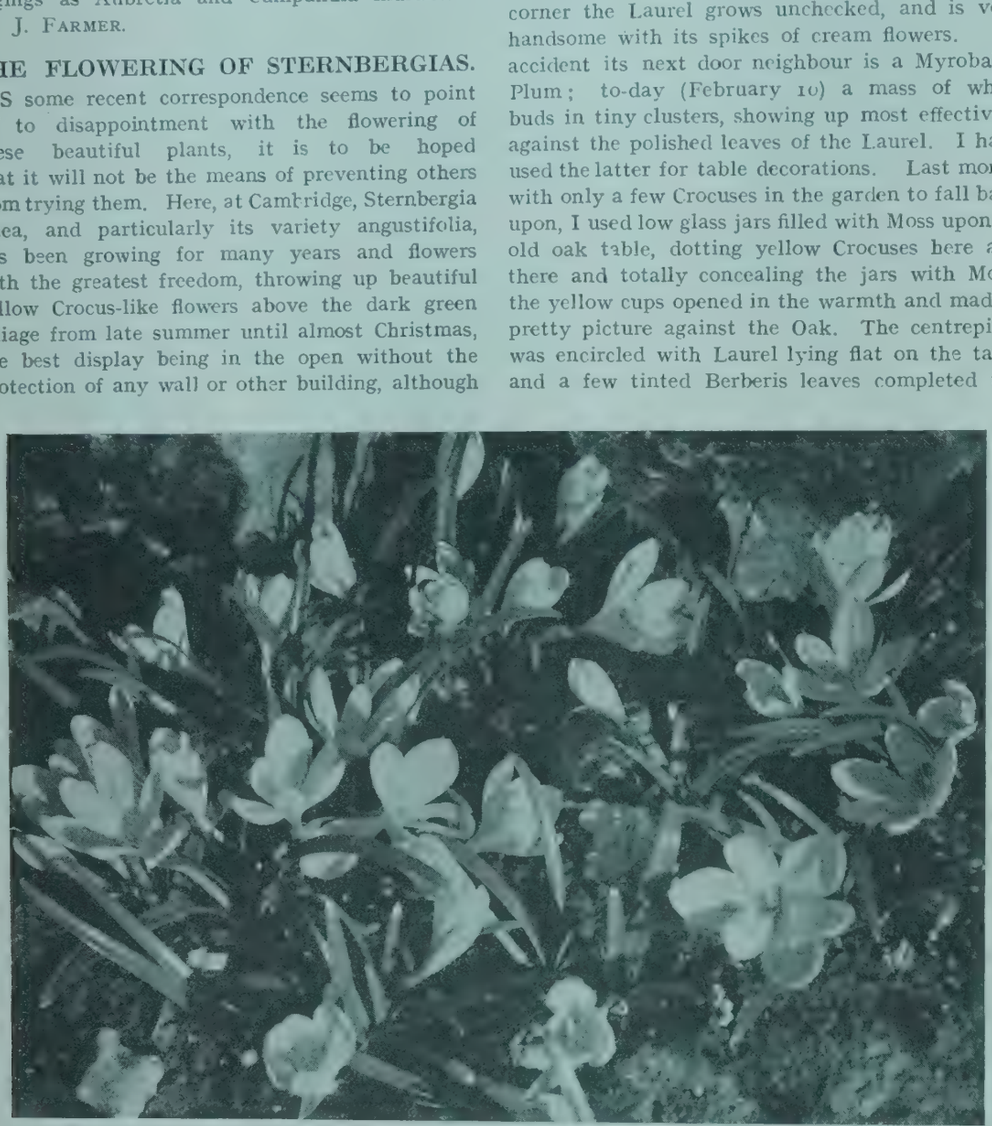
CORRESPONDENCE

FLOWERS FOR AN EDGING.

AUBRIETIA and dwarf Campanula are to my mind extremely suitable for edgings. Snails and slugs harbour everywhere, but we might as well have flowers for an edging as stiff clipped Box, and we can grow spring-flowering bulbs in such edgings as Aubretia and Campanula muralis.—W. J. FARMER.

THE FLOWERING OF STERNBERGIAS.

AS some recent correspondence seems to point to disappointment with the flowering of these beautiful plants, it is to be hoped that it will not be the means of preventing others from trying them. Here, at Cambridge, Sternbergia lutea, and particularly its variety angustifolia, has been growing for many years and flowers with the greatest freedom, throwing up beautiful yellow Crocus-like flowers above the dark green foliage from late summer until almost Christmas, the best display being in the open without the protection of any wall or other building, although



A COLONY OF STERNBERGIAS IN THE BOTANIC GARDENS, CAMBRIDGE.

without a doubt they should be planted in a warm, sunny spot in well drained soil, 5 inches to 6 inches deep, and left undisturbed. Given these conditions, there seems no reason why they should not be grown and flowered freely when once established. The illustration is a group of Sternbergia lutea var. angustifolia, which is to be preferred to the type, as it increases and flowers more freely.—F. G. PRESTON.

COMMON SHRUBS FOR INDOOR DECORATION.

ALWAYS I have had more than a secret regard for the much-abused Laurel, and am proud to think I am supported by such an artist as Miss Jekyll. Her praise of this shrub is not one jot exaggerated. This month in the garden the Laurel stands out prominently against other evergreens and dominates all except, perhaps, Magnolia grandiflora. Against a Laurel hedge, which grows more or less at will, I planted Buddleia globosa—which alone would be beautiful with the breeze playing on its Sage green leaves and at moments causing almost a silvery effect on the under part—but it is even more so with the Laurel as a background. There is no green to surpass the shade of the Laurel. Even the handsome shiny Berberis a few yards away is eclipsed during the winter. Perhaps the Laurel owes some of its effect to Vinca major running along the base, and later in the season thrusting its blue faces here and there through odd apertures. In another corner the Laurel grows unchecked, and is very handsome with its spikes of cream flowers. By accident its next door neighbour is a Myrobalan Plum; to-day (February 10) a mass of white buds in tiny clusters, showing up most effectively against the polished leaves of the Laurel. I have used the latter for table decorations. Last month with only a few Crocuses in the garden to fall back upon, I used low glass jars filled with Moss upon an old oak table, dotting yellow Crocuses here and there and totally concealing the jars with Moss, the yellow cups opened in the warmth and made a pretty picture against the Oak. The centrepiece was encircled with Laurel lying flat on the table and a few tinted Berberis leaves completed the setting. Aristolochia leaves make unique d'oyleys for the tea table. People are recommended to grow flowering shrubs, but do they realise their many uses and advantages indoors? I use all within my reach in turn, even the fruits of the common Elder. In late summer a very effective decoration can be obtained by the use of an old Devonshire pitcher filled with all shades of Perennial Asters, tall Rushes, a Phlox or two (pink, mauve or purple), an odd Rose, Clematis lanuginosa to create a bizarre effect, and at the base some rich black clusters of Elderberry fruits. The shrubby Hypericum, with its brown seed-cases in an autumn vase, is also very handsome. Retinispora, if used with discretion, is most useful in a bowl—it acts as a support to flowers and has pleasing shades of green. Pernettya used alone is very satisfactory. The Spindle Tree, with its pretty capsules on slender stems, is well known. At the moment I have a green bowl filled with Laurustinus which, stripped of its heavy green leaves, reminds one somewhat of a Saxifrage—the umbels of minute white flowers and pink buds are very attractive on their red stems; young shoots of Lilac and Ribes intermixed with trails of Sedu- making a pleasant change in the dullest month of the year and helping to fill the gap until we can gather Daffodils and spring foliage in profusion.—SYBIL.

CLIMBERS FOR A TRELLISED WALL.

HAVING been ill recently and not able to look at a paper for several weeks, I have had a lot of arrears to make up. The first paper I tackled was THE GARDEN. Its good, clear print is no small boon to my old eyes and its illustrations are always interesting. First, I thank all the kind folks who sent suggestions for climbers on the trellised north and east walls of Chaffinch Cottage. Said trellis of 1 foot squares (not diamonds) was suggested to me by our Editor, and its brown laths are an immediate and immense improvement to its appearance, taking away the *raw* look of the new walls. I have noted several of the suggestions for planting at the earliest opportunity, but, for the coming summer must content myself chiefly with climbing annuals, Tropæolums of sorts, Convolvulus major and Cobæas. I love the weird, witch-like flowers of this last. The very attractive and original suggestion by Mr. Clarence Elliott of plants and garden requisites, I intend to commend to my family circle before my birthday in March, and hope they'll send me some of Mr. Beckett's Michaelmas Daisies. How those illustrations made me long to see them at Aldenham! Whenever I think of Mr. Beckett's Daisies, I can *almost* forgive (though not forget) his huge Onions. "Somers'" delightful dream of "January Sweet Peas" recalls Charles Lamb's "Dream Children," and I guess "Somers" to be, like myself, a lover of "the gentle Elias," whose Essays bear reading again and again, as do Mrs. Earle's volumes of Pot-Pourris, together with Richard Jeffries, and the American Thoreau a sure test of true literary worth.—ANNE AMATEUR.

POTATO EPICURE.

I THINK this variety was raised and sent out by Messrs. Sutton and Sons, as a second early, and its quality is superb. As an early market variety it is more grown than any other in South Hants to supply such towns as Portsmouth, Gosport and Southampton, being ready to dig in the open at the end of May and early in June, when good prices are obtainable. In addition to its earliness, it is an enormous cropper, making much money from a small space. Another advantage in growing this variety is that the ground can again be so quickly cropped with Cabbage, Turnips, Brussels Sprouts, Lettuce, Marrows or Kidney Beans.—E. M.

EDIBLE FUNGI.

THE note on "Blue Legs" (page 16), followed by the interesting letter of Mr. Clarence Elliott not only reminds one that few Fungi are eaten in this country, compared with France, Germany and Italy especially, but of the difficulty in getting accurate published facts on the subject. As long ago as 1863 a second edition was published by Lovell Reeve and Co. of Dr. Badham's illustrated "Treatise on the Esculent Funguses of England." This gave an account of their classical history uses, characters, development, structure, nutritious properties, and modes of cooking and preserving, and was well illustrated with twelve hand-coloured plates. The price was 12s., and I expect it has long been out of print. I recently secured a copy at a sale. In the first paragraph we read: "No country is perhaps richer in esculent Funguses than our own; we have upwards of thirty species abounding in our woods. No markets might therefore be better supplied, than the

the only country in Europe where this important and savoury food is, from ignorance or prejudice, left to perish ungathered." The extent to which fungi are eaten on the Continent of Europe is hardly realised by the casual traveller, however much he may have enjoyed a delicious dish in some French or Italian restaurant. I believe that in France, and perhaps in Germany, school-children are taught to recognise many of the edible kinds; and I remember seeing in the village schoolroom in one of the smallest islands in the Western Mediterranean two admirable charts hung on the walls—one with coloured figures of the eatable kinds, and the other with those known to be harmful if not poisonous. This was on the island of Porquerolles, south of Toulon and Hyères. Whether the fact that a former curé was a distinguished botanist partly accounted for these useful charts I cannot say. A much smaller and cheaper book on "British Fungi and How to Identify Them" (1s., now 1s. 6d.) was written by J. H. Crabtree, and published a few years ago by Charles H. Kelly in his useful series of little handbooks on natural history. The black and white illustrations in this booklet are very good, being clear reproductions of photographs. It has a short useful introduction on the structure and life history of fungi, with a simple form of classification. Boletus edulis is here called "Dainty Bolet," and we are told that the Bolets and some ten other British genera differ from most of the others by having pores instead of gills under the pileus.—H. STUART THOMPSON.

ASSISTING BACKWARD POTATOES TO SPROUT

LAST year I had some very nice seed tubers of Potato Great Scot sent to me. These were duly boxed and placed in a position where they were able to obtain plenty of daylight. For some unknown reason they were very slow in sprouting. I therefore gave them a little assistance. Pans of dampened bulb fibre were prepared and the seed Potatoes plunged half into the material with the "eyes" just showing. The material was kept moist by an occasional overhead spray. The result was quite satisfactory. In about a week the sprouts began to make their appearance, and at the end of a fortnight were nicely developed. These were planted in due course, but suffered rather badly from "rust." Great Scot seems rather susceptible to this disease. I am wondering whether they had received some check which prevented them sprouting without assistance, and whether this accounted for the subsequent appearance of "rust."—PANGBOURNE.

FLOATING FLOWERS IN BOWLS.

I AM delighted to see in a recent issue of THE GARDEN, page 17, the most interesting note by H. H. Warner on the present fashion of beheading flowers for floating in bowls. The Water Lily seems to be the only flower, besides the blue Forget-Me-Not (Myosotis palustris), which Tennyson tells us "grows for happy lovers," which should be "afloat." The Dahlia, happily, cannot be made even by decapitating to look like a Water Lily. Why fashion cannot follow nature is hard to see. To lose the stalks of flowers is to lose much of their charm and beauty. Take Roses, for instance; in stalk, leave the lovely red thorns on, then place them in the vases. There is a modicum of beauty in seeing the stems of the flowers in clear glass and sparkling water the little air bubbles settling in the water making the picture complete and true to nature. Take another instance. Sweet Peas beheaded, what are they? They were not meant to float, but to waver on their glorious grey-green stems with every passing breeze, "poised for flight," and when cut to be treated as the Roses should be their long stalks showing through the glass vases.—H. C. P.

PEAS AND BEANS FOR SUCCESSION

Spring Sowing should be Sparing and Regular

TO obtain an unbroken supply of Peas and Beans, especially the former, regular and small sowings rather than a quantity at longer intervals should be made. Where so many persons—especially amateurs—err is in sowing the seed too thickly, which is not only a waste of seed but is injurious to growth. The plants with insufficient space for development of haulm grow weakly and cannot bear pods freely or so strong as they would if more space were given for the proper growth of haulm and leaf.

Peas.—With continuous rain and frost, especially when allied to heavy soil, no doubt the best method to adopt with the early sown batch of seed is to raise the plants in boxes under glass and put out the plants in drills when they are about 3 inches high. Prepare shallow boxes with light, rich, moist soil and sow the seed about 2 inches apart. Cover them with half an inch of soil and stand the boxes in a cool house or even a cold frame protected from frost. When the plants show above the soil expose them freely to air and light to induce a stocky growth. Put out the plants in double rows 6 inches apart for dwarf sorts. For tall varieties 10 inches is none too much, with at least 4 inches and 8 inches from plant to plant. The varieties for this method of culture I recommend are Pilot, Sutton's Early Giant and Edwin Beckett. The latter is quite one of the best of early Peas in that it is robust in growth and distinctly good in flavour and cro All are of the Marrowfat section, which are admittedly superior in quality to the round section, and when sown as directed there is not the risk of failure which occurs if adverse weather inte venes after open sowing

For the first sowing in the open on a south border, if the soil is dry, the third week in February i a good time for such varieties as Pioneer, New Leader and Pilot. Where the soil is heavy and retentive of moisture it is a good plan to dig out a trench 6 inches deep, filling it in with a light compost, such as old potting soil, leaf-mould and decayed vegetable refuse. This provides better drainage in the case of continuous rain.

Early in March the Marrowfat varieties may be sown in the open, and where supports can be secured I am in favour of tall-growing varieties like Duke of Albany and Quite Content, because greater crops can be secured from the same amount of ground than is possible with dwarf-growing varieties. In addition to the two named, I add Stourbridge Marrow, Centenary, Telegraph, Gradus, Senator and Alderman. For late supplies, Autocrat, Gladstone, Ne Plus Ultra, Quite Content and Edwin Beckett, which is proving to be an excellent late as well as an early variety. I would again emphasise the advantage of sowing thinly to give the plants space to develop fully, making lateral growth freely, especially in the case of Quite Content, which continues to fruit over a long period in consequence of successional growth. Where a constant supply of pods is needed, sowings should be repeated every ten days. Where, however, space is limited, this cannot be done.

SPROUTING ASSISTED BY DAMPENED BULB FIBRE.

Broad Beans.—The sowing of Broad Beans in boxes for the earliest crop has much to recommend it where the soil is heavy and continually wet in early spring. Even if the boxes cannot have more than shelter from heavy rains by a covering of galvanised iron. By this means regular, even rows are assured, and as the roots take kindly to the soil when transplanted, but little check takes place. The plants, too, come earlier into flower and they fruit closer to the soil, thus giving a heavier crop of pods. The middle of February is a good time to make the first sowing in the open, also in boxes, except of course if extra early supplies are needed and the plants can have the benefit of glass protection. The plants from the early sown crops are less liable to aphis attacks than later. Some practise November sowings in the open, but in few cases does the practice warrant success. The plants are so liable to suffer from cold winds and frost in the early months of the year.

We have not much variety to choose from in Broad Beans. Good forms of Windsor and Long pod seem all that is necessary. Those who prefer small pods and Beans should grow Beck's Dwarf Gem. Where only one variety is required Mammoth Longpod is good. The method of cultivation—liberal or otherwise—makes all the difference in the amount of crop obtained, in the length of the pod and, naturally, in the number of Beans contained.

GLOBE ARTICHOKES

Increase the Yield of this Sadly Neglected Delicacy

A DELICIOUS and wholesome vegetable, the Globe Artichoke is deserving of far more attention on the part of the private gardener than it usually receives in this country. Its fleshy heads when gathered before the scales begin to open too fully and boiled in salt water, are delicious. The heads must be boiled until the inner parts are soft. When serving the scales are detached, dipped in melted butter and the soft portion sucked off. Sometimes the heads are pickled. In this case they should be young and not more than 2 inches in diameter. "Chards," which are cooked like Cardoons, are obtained by cutting down the old plants directly the heads have been gathered. When subsequently the young leaves have grown to be 24 inches high they are tied closely together in bundles and in this way they are blanched.

A bed of Globe Artichokes will last for years, but it is not advisable to keep plantations for so long. The better plan is to plant a row or two each year and destroy all beds as they become three years old.

The heads are ready for cutting about July and onwards. The plump and fresh-looking ones are the best. Those with protruding scales are not so good. If it is desired to prevent any becoming too forward, cut them with a foot of stem and place in water in a cool cellar.

Soil and Manures.—Deep, light, sandy and warm soil suits the plant best. Heavy, cold land often causes them to perish in the winter. But they will succeed on any improved soils that contain sharp matter, such as road grit, cinders, wood ashes and vegetable refuse.

It is most important that the crops should be planted in a warm and sunny position. The heavier kind of soil is all the better for being deeply trenched during autumn or winter. Sandy soil is improved by the addition of cow manure dug in during February, with a surface dressing of lime given a little later. Horse dung is more suitable for heavy soil, providing it is fairly well decayed. Where it can be obtained seaweed is good. On good soil it is not necessary to use artificials, but where it is necessary, Kainit at the rate of one ounce per square yard may be applied when the ground is being dug, one and a half ounces of superphosphate in March and one ounce of nitrate of soda in May. Two ounces of sulphate of ammonia and one ounce of superphosphate to a gallon of water applied occasionally when the heads are developing is a good stimulant.

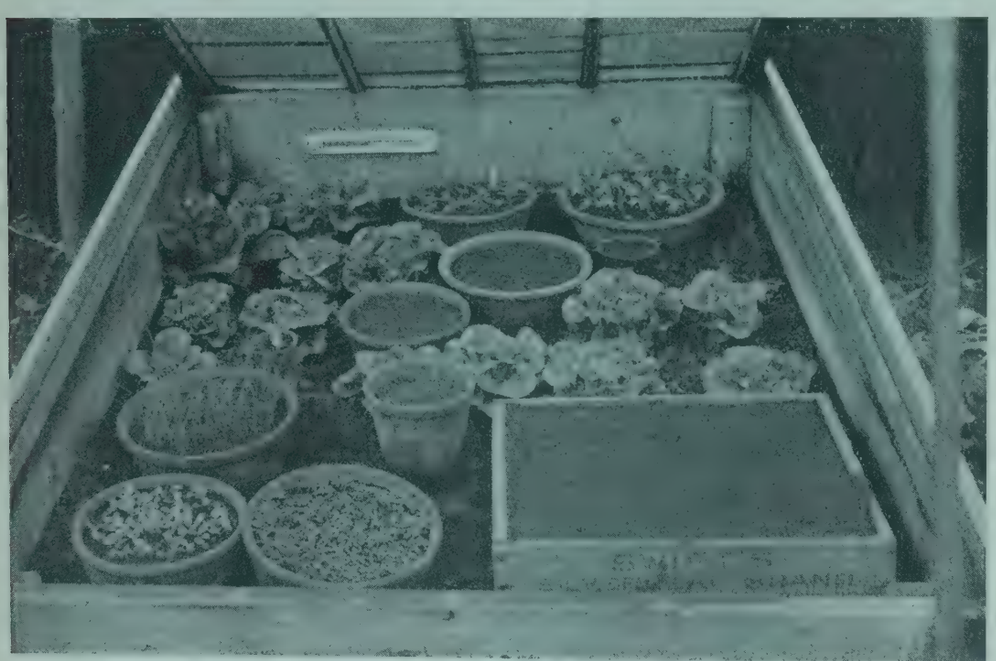
Propagation.—The best method of propagating the Globe Artichoke is by suckers taken in April. Lift a plant and separate each shoot with a slice of the old stock attached. It does not matter whether or not there are any roots attached. All decaying foliage should be removed and each shoot planted singly in rows 4 feet apart and 3 feet from set to set. Another way of planting is the group method. The suckers are planted in groups of three sets placed 9 inches apart with 2 feet between the groups and 4 feet between the rows. The soil round each set should be made firm and mulched with cinder ashes, or decayed manure. In dry weather give plenty of water. Propagation by seeds is not successful. The seeds germinate and develop quite all right, but the resulting plants are usually disappointing.

After Care.—The after care of the Globe Artichoke is not very considerable. In the autumn all dead foliage should be removed and a thick layer of litter and manure placed around the plants. If the weather during the winter should be severe, it will be necessary to cover over the tops with dry litter. This covering, however, should not be allowed to remain too long. When the weather eases it should be removed. Then, about April, all litter is removed, and the suckers, and a dressing of rotten manure spread over the surface and forked in.

L. M. MARSHALL.

The Management of a One-Light Cold Frame during Twelve Months

A ONE-LIGHT cold frame, 6 feet by 5 feet! Not much difficulty in keeping that fully occupied, one would imagine. And yet there are some amateurs who become possessed of such a structure—a miniature cold greenhouse—who cannot keep it even half filled. I know that this is so, because from time to time I receive queries from gardening friends asking "what they can put in the frame at this time of the year?"



CROPS ADVANCED WITHOUT HEATING APPARATUS.
The cold frame in Mid-April.

The first item of importance is the situation or aspect where the frame is to rest. It should be so placed that it can obtain a maximum of solar heat, and for this purpose a southern or south western position is the most suitable. If such a position can be found which is backed by a high fence or wall, place the frame there; it will then obtain a further heat by reflection, as well as shelter from a cutting north wind.

Amateurs possessing a frame for the first time, do not seem to be able to understand that ordinary garden soil is not a suitable material with which to fill it. If money is no object, the ground upon which it has been placed should be dug over to the depth of 1 foot, and if the drainage is poor, a few stones may be worked into the bottom soil as the digging proceeds. On this two loads of dung will give a nice gentle heat for the first year. The cost is not really as great as it might seem at first glance, because this material will not require to be renewed for three years.

If manure cannot be obtained, nearly fill the frame with rotted material from the garden "tip," treading this well down. Before placing any soil on this, give a thorough watering with a solution of ·808 ammonia, two ounces to the gallon of water, to destroy the slugs which are sure to be present. Then add a foot of the best soil that the garden can spare, and the frame will not need to be replenished for at least two years.

While on the subject of compost for the frame, I might add that after such fillings, all that is necessary at the end of the first and second years, is to dig over and retread the mould formed by the decomposition of the manure or tip compost.

Naturally, if stable dung is employed, the same remarks apply as to the addition of the foot of soil, as when compost heap material is used.

The frame is now ready to receive the first occupants, which in my case are always Tom Thumb Lettuces. These are plants from the open ground made by sowing the seed in September. The seedlings are carefully lifted and dibbled in at 6 inch intervals in lines a foot apart, until the whole frame is filled. This is done in November, and apart from ventilating on fine days, nothing further takes place until March. Olive Radish seed is then sown very thinly between the lines of Lettuce. The seeds are put in singly an inch apart. Germination usually takes place within the week, and by the time that they are ready to pull—some six weeks—there is a grand fight going on between the Radishes and Lettuces as to whom the frame really belongs. The victory always rests with the Lettuces, because the Radishes quickly find their way to the table—and jolly good sweet little things they are too!

The victory of the Lettuces over the Radishes is only of short duration, for pans of seedlings raised in a warm room ask to be placed in the frame. As

the Lettuces are not really ready, it seems a pity to draw them, but they form a very palatable delicacy nevertheless. Pans are preferable to boxes for cold frame work, as by drawing one or two Lettuces, room can be made for a pan, whereas a box might demand that half a dozen be used forthwith. Later on, as the Lettuces heart and are eaten, boxes find a place in the interior, but these are used for pricking off purposes, whereas the pans are used for seed raising, usually. There comes a time when the last Lettuces have to be used, because boxes and pans cannot wait.

In the illustration on the opposite page it will be seen that the frame is fully occupied. In the extreme left-hand corner is a pan of spring sown (February) Tom Thumb Lettuce, which are placed in the cold frame to germinate when they will. These become large enough to plant in the frame, when all the pans can be put outside to harden. Next to them is a pan of Alonsoa for summer bedding. Behind the Lettuces are a pan of early Leek seedlings, and an early Marrow in seed leaf in the small pot. Right at the back are seen Tomato seedlings, which are to fruit outdoors later on.

The photograph from which the illustration was prepared was taken in the third week of last April, and shows how a little protection will give advanced crops without fire heat.

Towards the end of May the frame becomes a packed mass. The Tomatoes have by that time been all potted up and sunk, rims touching, as far back as possible to allow them to grow 1 foot high without touching the glass. The pans of pricked-out seedlings have been arranged in front of them, and wherever a Lettuce could be popped in, there it went, whether in line or not.

The first illustration reminds one of the little suckling baby. It is quite content to live in its small world. Later on it is going to have something to say as to where and how it shall conduct itself. It is the same with the present frameful. They are all in the suckling stage; they are contented.

See them at the end of May. Pandemonium reigns! The Tomatoes have grown to great hulking bullies, treelike in structure, and who keep pushing and digging their elbows into any plant unfortunate enough to be in the vicinity. "We want to be out of this!" they shout. The Lettuces and smaller plants much resent this bullying; they become quite pale and weak. In desperation they appeal to me. Then I take those Tomatoes by the scruff of the neck and plant them out. One can almost see the Lettuces and bedding-out plants stretch themselves and shake down into position. The pale appearance and inclination to grow thin disappears.

Three of the bullying Tomatoes are allowed to remain in their pots in the frame, and owing to the greater accommodation are placed in widely different positions in order to become stocky and sturdy. These have later on to occupy the whole frame. June arrives and the frame becomes empty of its occupants. Three wires are now run the length of the frame, and at the deep end are planted out the three potted Tomatoes. These are carefully trained to the wires as they grow.

I hate to have an inch of ground unoccupied, and by the time the second crop of Lettuces are gone there is quite a lot of spare room. I have never seen the Tomatoes reach the bottom of the wires, therefore I plant in a corner a Cantaloup Melon, which by the time the Tomatoes are finished requires most of the frame and will furnish two good fruits.

Those who do not wish to grow Tomatoes in the frame should purchase a good frame Cucumber plant and plant it near the top corner, shutting the frame for the first few days until it has got [illegible]. A little attention to ventilation (not much needed) and watering will produce as many really good Cucumbers as the average small household will require.

By the time that these summer crops have finished a last crop of Radish can be got off before it becomes time to turn over the compost and recommence with the autumn-sown Lettuces.

Of course, this is only a suggestion for one year's filling of the frame. What to grow is a matter for the individual. If I have helped the novice to fill his frame for one season, he will not need assistance a second time. CLARENCE PONTING.

TOMATOES AND MELONS GROWING TOGETHER.

The Cantaloup Melon plant in bottom right-hand corner will occupy most of the frame when the Tomatoes shown have finished.

Lettuces All the Year Round

NICE crisp Lettuces are much appreciated all the year round. To obtain the most succulent leaves, free steady growth is essential. If the plants receive a check at any stage of their growth they fail to "heart" satisfactorily and frequently "bolt" to seed prematurely.

The Cabbage varieties are the most suitable for growing in frames during the winter and spring months, and also for the earliest batch of the year outside. The Cos varieties are of great value in the summer and autumn, many specimens when well grown weighing several pounds after the outside leaves are removed.

A rich deep soil is essential to success, and in gardens where the soil is gravelly and poor the cultivator would get the best returns from a small plot which has been specially treated. Having collected some garden refuse, well decayed, mix it, together with some rotted manure and leaf-soil, if these are procurable, very liberally with the garden soil in a favourable spot. Treat a small plot of ground well rather than a large one indifferently, and so secure a deep-rooting medium. I daresay many readers have seen fine Lettuce plants growing on the ridges between the Celery trenches. Such plants are the result of an extra depth of soil and its increased warmth mainly. Usually too many seeds are sown in a bed. A few scores or hundreds, maybe, of the resultant seedlings are used and thousands are thrown away or dug in.

Sow the seeds very thinly and transplant the seedlings at an early stage with roots intact. The common way is to forcibly pull up the young plants and so the roots are badly broken, a serious check to growth occurring when they are transplanted. It is best to insert a garden fork under a number at once and so lift them, then the soil that breaks away will not damage the roots.

At the final planting the cultivator must allow sufficient room for every plant to grow rapidly to its full size without overcrowding. Of course, there are small, medium and large Cabbage varieties as well as of Cos, and the distance apart must be governed according to the ones grown. Moisture and heat are highly essential. Water must be applied freely and also liquid manure when they begin to form close hearts. SOLENT.

How to Grow Celery

When Conditions are not Ideal

EXPERIENCED cultivators know how valuable these plants are from early autumn to springtime and make preparations for the planting-out, in due course, of a good batch of plants. But there are many owners of gardens who never attempt the cultivation of Celery because they fear their soil is unsuitable—too poor and dry or too wet.

Now, as regards the latter very fine Celery plants may be grown in it if there is not any really stagnant water which has, or will, become offensive in the summer-time. I know, and I daresay many readers know, too, of numerous plots of land in Lancashire and in some of the eastern counties where the soil is naturally very moist. I have seen men of average height, when standing upright, nearly hidden from view between the rows of plants at the final earthing-up. The average cultivator will, however, be quite satisfied with much smaller plants. In such deep

moist soil, trenches of ordinary depth may be made to contain one, two, three or four rows of plants according to circumstances.

In regard to the shallow and naturally dry soils, the best course to take is to well enrich it with rotted manure, treating a selected plot of ground in this way one month prior to the date of planting, and to dig in the manure all over that plot evenly with a view to non-earthing in the understood form, but to ensure the blanching of the plants by wrapping them in paper bands in which a mixture of sand and sifted ashes has been poured while in a dry state. These ingredients prevent slugs eating the outer stalks. Of course, the Celery is planted on the level ground in rows 2 feet 6 inches apart, and not in trenches. Surface mulches and applications of manure water during the months of August, September and October will have a very beneficial effect on the plants.

When and How to Sow the Seeds.—A pinch of seed of a good white variety should be sown early in March for the first crop. The compost must be of moderate richness, rather fine, and placed in a pot, pan or box not less than 4 inches deep. Sow the seeds very thinly, and transplant the resultant seedlings twice, prior to the final planting. For the main crop sow seeds in April in a cold frame, using similar soil, and transplant twice also.

G. G.

MELONS AND CUCUMBERS

From Seed Sowing to Full Bearing

THE cultivation of these two subjects is in many ways identical. Both are quite easily grown if their cultural requirements can be regularly attended to. They may be grown in a warm greenhouse, a heated pit or a cold frame. Artificial heat is necessary during the early part of the season, but from the middle of June onwards this may be dispensed with provided the best use is made of

THE FRUITS SUPPORTED BY NETS.

sun heat. Those who are fortunate enough to possess a heated structure may make a start early in the spring. For Cucumbers a hot-bed is helpful, as it promotes a quick root action and helps considerably to warm the atmosphere. A hot-bed may be made of stable litter and leaves in equal proportion, or either of these materials separate. Collect enough material and throw it into a heap till heat begins to generate. The hot-bed can then be made. A hot-bed is not so necessary for Melons, but it is a great help, especially during the early part of the year. For Melons the rooting medium should consist chiefly of loam cut from an old pasture mixed with a little lime rubble, wood-ashes or soot. Form these materials into a bed about 1 foot deep and 18 inches wide. The soil must be made quite firm or the plants will develop grossness, a condition which renders them prone to canker. I have known more than half the plants go off through this cause. The bed should be elevated quite near to the roof glass, and except when growing them in a cold frame a trellis will be required to train them on. Sow the seeds singly in 3-inch pots three or four weeks in advance. They will germinate quickly if plunged in a hot-bed and covered with a sheet of glass. Plant out, when ready, about 18 inches apart and place a stake to each plant to support it until it has reached the trellis. When they have covered about 3 feet of the trellis the points of the leading growths may be pinched out. This will further the development of side shoots. Stop these shoots one or two leaves beyond the fruit and tie them securely to the trellis. To secure an even crop of fruit the female flowers must be pollinated. This is done by removing the male flowers and, after pulling off the petals, transferring the pollen to the stigma of the female flowers. Three or four flowers should be open on each plant before commencing this operation. During this period more air must be admitted to the plants and the atmosphere must be kept dry. This advice also applies when the fruits commence to ripen. When a good set of fruits has been secured all superfluous growth must be kept regularly removed. Open the top ventilators before noon, more or less according to the conditions prevailing outdoors, but take full advantage of the sun by closing the house early in the afternoon after spraying the plants with luke-warm rain water. During cold, dull spells of weather the plants should not be syringed, neither must the atmosphere be kept too moist. When the fruits are large enough they must be supported by nets or something similar. Melons in frames may be allowed to grow over the beds; in this case the fruits must be raised on flat tiles and be fully exposed to the sun. While the fruits are swelling the roots must never be allowed to become dry, and stimulants should be given at every alternate watering. During the latter stage diluted cow-manure is an excellent stimulant for the Melon, but this must be discontinued as soon as the fruits commence to ripen. Cucumbers may be planted on mounds of soil placed on a hot-bed about 4 feet apart. If the plants are to be grown in a greenhouse during the summer months a hot-bed is not necessary; the mounds of soil may be placed on the stage. They should however, be placed as near to the roof glass as practicable. During the early stages of growth the plants will grow freely in a compost of loam and leaf-soil, but when in full bearing well-decomposed horse-droppings should be mixed with the loam. This should be applied to the roots at regular intervals. Cucumbers require a warm, moist atmosphere at all times, and when in active growth constant attention is necessary to stopping and regulating the growth. When in full bearing abundance of water must be afforded, and this must be frequently supplemented with stimulants. The fruits must be cut as soon as they are large enough and placed in a cool position.

Lockinge. E. H.

Some "Best Methods" of Planting Potatoes

ALTHOUGH good crops of tubers may be grown without much labour on some land, there are soils that need every care and attention in the way of preparation to be successful in procuring even a reasonable crop. Our soil at Wrotham is somewhat light and porous, which greatly lessens the labour compared with that of a heavy, clayey texture and the yield is usually very satisfactory. For improving heavy land, half decayed leaves, burnt garden rubbish, decayed manure and old potting soil thoroughly incorporated will prove very helpful and the crop will greatly benefit by the application. It has been repeatedly asked which is the best way to plant Potatoes? Of course the answer to this depends entirely on the nature and condition of the soil. For our main crop I use the dibber very successfully, but this method on a heavy soil might prove just the reverse. Commencing with our earlies, the first crop is obtained by planting sprouted tubers with the trowel close to the foot of the walls of the vineries, outside, and to follow these a snug sheltered plot is thoroughly prepared and early Peas, that grow about 2 feet high, are either sown or planted from pots, in rows 6 feet apart. Between the Peas we plant two rows of kidney Potatoes, suitably sprouted (in boxes) in drills drawn out with a Canterbury hoe, 5 inches deep. The Potatoes are carefully planted and first covered with a portion of leaf mould and then levelled off tidy. It is needless to remark that the Pea sticks greatly shelter the Potatoes and the crops are usually very satisfactory and early. As for the main crop, the

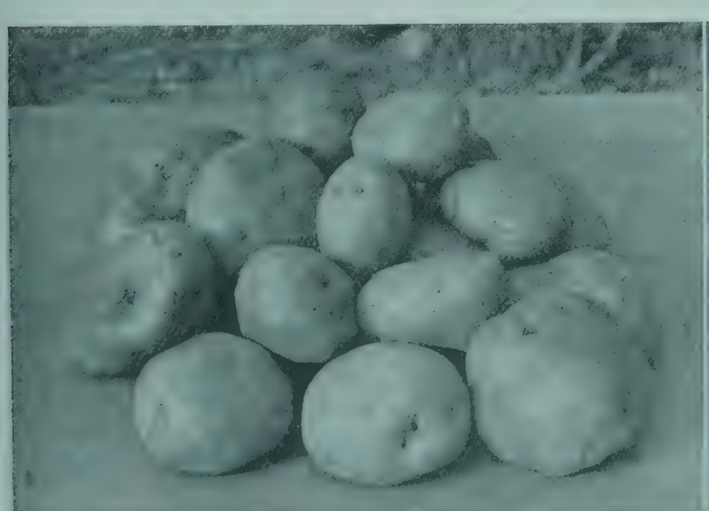
ibber is employed, the ground having been pre-ared in readiness. A line is strung and holes nade 12 inches apart and 6 inches deep: a boy ollows the man and drops in the tubers, eyes pwards; he is followed in turn by a man with a ork who loosens the soil trodden down in lanting, and also fills up the holes above the ubers as the work proceeds, which completes he process. I have practised this method for nany years with every success. Drills drawn inches deep with the aid of a Canterbury hoe n well prepared land is also a capital plan so long s the soil between the rows is gently heaved with fork.

When dealing with a somewhat heavy, stubborn oil, I very much prefer planting in trenches pre-ared with the spade, as this method greatly lessens he danger of consolidating the land as a result f trampling upon it. The trenches should be made s the digging or forking over proceeds. A gentle eave between the rows and especially on very tena-ious land, with a fork, after Potatoes are well above he soil will greatly lighten the root run and prove ighly beneficial to the future crop. It is only too well known that after a very heavy fall of rain, coupled with dry wind and sunshine, how hard and aked some soils become and how detrimental his is to both the growth of the crop and shape of the tubers. Another point which should never be overlooked is the quality of the seed. On our soil at Wrotham, I cannot depend on a crop from seed that has been grown more than two years, no matter how evenly shaped and good the tubers may appear. I sometimes think when failure occurs it is due not altogether to the soil and treatment, but to the seed. H. MARKHAM

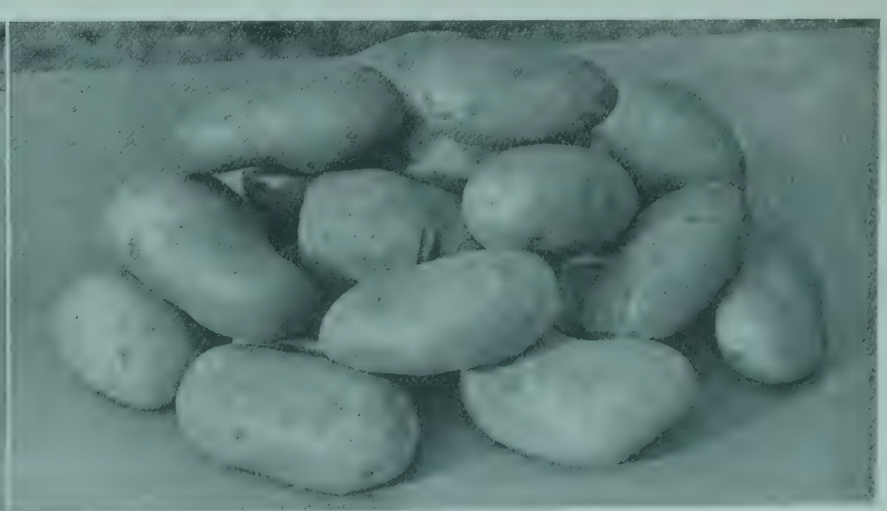
Two New Potatoes of Great Promise

AMONG the novelties in Potatoes sent out by Messrs. Dobbie and Co., and tried last year, two varieties stand out from all the rest, viz., Dargill Early and Roderick Dhu. The former is an example of what a white kidney Potato should be; it is a beautiful kidney-shaped variety and cooks well. It is not, however, quite as early as the better known variety, Witch-Hill, but it should be found a most useful addition to the early varieties both north and south. Two pounds of seed were planted on March 20 on very light, poor ground, and with no manure other than two handfuls of Wakeley's Hop Manure to each tuber at the time of planting. The resultant crop, viz., 48lb., may, in view of the poor soil in which they were grown, be described as very heavy. On the whole the tubers were of large size and quite free from chats. The tubers were lifted on June 20, three months from the time of planting.

The variety Roderick Dhu is unquestionably one of the most remarkable varieties of recent introduction, and the trial parcel of 1lb. of seed gave a yield of 42lb. of large, excellent tubers, likewise on poor soil, with the same manurial treatment as above mentioned. Roderick Dhu created a great sensation at the Ormskirk Trials in 1918 and the limited trials which have so far been distributed indicate that this variety has given great satisfaction both north and south. In the autumn of last year Roderick Dhu was awarded the Lord Derby gold medal at Ormskirk as the best immune variety of the year. It is a strong growing variety, flatish round in shape and a very heavy cropper. A leading Scottish nurseryman has obtained a crop of 61lb. of tubers from one seed tuber weighing 6 ozs. It is a very distinct and handsome variety, and one of which we shall hear a great deal in the future. C.



RODERICK DHU.
The best immune Potato of 1920.



DARGILL EARLY.
All that a kidney variety should be.

BORDER CARNATIONS

Potting Compost Secrets Revealed by Three Leading Experts

IN one of my recent articles, reviewing the Border Carnation season, I unwittingly tripped into an error which demands rectification. It refers to the origin of that fine buff ground fancy Clement, which I described as emanating from the late Mr. Blick's collection and appearing first for sale in 1918. Mr. Arthur R. Brown of King's Norton, Birmingham, sends me his novelty list of 1910, which includes Clement as one of the new varieties of that year, and takes me to task in a gallant and courteous manner when he might easily have poured over me the vials of his sarcasm for my want of knowledge. He explains that Clement was raised in 1908 by the late Rev. C. A. Gottwaltz, who considered it one of his best seedlings and gave to it his own Christian name. I am pleased that Mr. Brown came to the rescue with this interesting bit of Carnation history, and I have pleasure in offering him my apology and thanks. In relating the incident to my good friend Mr. G. D. Murray he immediately (and this is just like him) wanted to share the blame for my mistake, as he had told me he had first seen the variety in question at Hayes and thought it really did originate there. Now I have got this off my conscience I want to proceed with a talk about current Carnation work.

The time has arrived for repotting into final quarters in which the plants are to bloom. If not already done, the compost to be used should be prepared without delay, and the work of potting on completed during the next four or five weeks. I am leaning more and more to the view that the materials used and recommended by many advocates of high feeding have been too rich. Some growers put as much as one-third manure into the compost, and, while large flowers may be harvested from such soils, I fear the plants themselves do not fare healthily. They are inclined to dine not wisely but too well, and physical debility follows, as with us humans. The growth becomes large and sappy and falls a prey to rust and spot, while aphis finds congenial quarters on every bit of juicy "grass." The following three mixtures are culled from the "Carnation Manual" and can be safely recommended:

(1) Four parts good fibrous loam, one part leaf-mould, one part sea sand, one part manure, half a part mortar rubble; add a little old soot.

(2) Three parts brown fibrous loam; one part, in equal proportions, leaf-mould, road grit and cow manure; crushed oyster shell for keeping compost open.

(3) Three parts loam, one part made up equally with manure and leaf-mould; a little coarse silver sand, and a little lime rubble or bone meal, and some broken charcoal

In compost No. 2 crushed oyster shell is specially recommended as having a beneficial effect in the colouring of the flowers. In No. 3 the reader will note that the opening materials are to be used at the discretion of the individual grower, no definite

quantities being given. These soil mixtures were recommended twenty-five years or more ago by prominent growers of the day, and, recognising the value of comparison with composts used at the present time, I asked three of our leading experts to oblige me with details of their potting soils for the benefit of readers of THE GARDEN. I know that each of these gentlemen is anxious to see the cult of the Border Carnation taken up more widely by the general public, and they all most willingly gave me the following particulars of the ingredients they find, by experience, most suitable to their plants. I cannot do better than repeat in their own words the whole process of soil making.

No. 1.—"My final potting compost is usually made up as follows: Twelve barrow-loads loam, one barrow-load leaf-mould, one barrow-load thoroughly decayed and spent stable manure, twelve 7-inch pots coarse sharp sand, two 7-inch pots broken mortar rubble, three 7-inch pots old soot, two 7-inch pots broken charcoal. I may vary the above according to the texture of the loam, which, if too fibrous, is better without the leaf-mould. If heavy I should add more mortar rubble and probably some crushed oyster shell."

No. 2.—"My newest practice is as follows: To 8 bushels loam (which I pick thoroughly by hand, not too fine, say, in lumps about the size of an ordinary fowl's egg) I add 1 bushel leaf-mould put through a half-inch sieve, 2 gallons sifted burnt ballast, 1½ gallons coarse silver sand, 1½ gallons old soot, 1 gallon bone meal. To this, if I had it at hand, I should add 1½ gallons of old mortar rubble. Last year at final potting time I varied the above ingredients by giving 1 bushel of well rotted manure. In that case I reduced the bone meal to two or three 5-inch potfuls. However, I do not consider animal manure is necessary when one is using the best Surrey loam, though I cannot quite give it up in cases of varieties of proved hardiness."

No. 3.—"I started making up my present soil heap eighteen months ago. There were nine loads of top spit and three loads of *hot* stable manure, placed in layers. (Of course, three loads of hot long manure would not represent three loads of short, well rotted stuff—far from it.) By using the manure hot in the way mentioned it sets the whole heap fermenting, killing much vermin, and in about eighteen months time the heap cuts out splendidly—a pleasure to handle. Twelve months is the very earliest date that I commence using a new heap, having the very strongest objection to placing manure of a half-rotten quality anywhere near a Carnation. It may be contended that the manure is spent in eighteen months—had it been in a heap by itself with rains beating on it I should be much of this opinion; but rain, instead of washing the goodness away, simply soaks it into the loam, which receives it like a sponge. On taking this loam and manure into the potting-shed in October I add to every fifteen barrow-loads five barrow-loads of leaf-mould, to which has been added a liberal supply of slaked lime to counteract possible acidity, sufficient crushed oyster shell to keep the compost open, and a liberal dressing of wood ashes from the garden bonfire. My mixtures are rarely exactly the same; sometimes, in place of sand or oyster shell, I use burnt clay (turned red by fire) passed through a half-inch sieve."

Amateurs would do well to make a permanent note of these details; they contain the secret of success of three clever and able amateur growers, and there is plenty of disparity between the different composts to show that the Border Carnation is not fantastic in its soil requirements.

J. L. GIBSON.

Two Brilliant Crocuses

CROCUS VERSICOLOR, a plant of the Maritime Alps and one of the species of earliest introduction, has given us some of the finest of the purple and white varieties in cultivation, many of them beautifully striped and feathered with deep purple markings. Among some others of the early Crocuses, C. Sieberi is a flower of singular beauty and charm. It is not large like the Dutch kinds, on which we depend for brilliant effect, but has qualities of distinction and refinement that are extremely attractive. It is a plant for a very choice place in the wild garden. It comes from the mountains of Greece and the Greek Islands; in colour it is a soft lilac with a yellow base and conspicuous orange stamens.

CROCUS VERSICOLOR—PURPLE AND WHITE.

CROCUS SIEBERI—SOFT LILAC WITH YELLOW BASE AND ORANGE STAMENS.

ARISING OUT OF THE 'SWEET PEA ANNUAL'

Robin Goodfellow Sweet Pea

IN the "Sweet Pea Annual" for 1921 Mr. T. H. Dipnall reports that a novel type of Sweet Pea appeared in his garden last year among some plants of Alexander Malcolm. It was of much the same height as the others, but had thinner stems, smaller foliage and flowers, and longer pedicels to the individual blooms, which were somewhat far apart on the sprays.

A very long time ago I used to buy something of the same kind, as I found the smaller foliage, of which there was any amount, so useful to put with Sweet Pea flowers in vases. The plants grew from 2 feet to 3 feet high. Does any reader remember the strain? and, if so, could he tell us if it is still in existence?

It would appear that Mr. Dipnall's Robin Goodfellow is a break or a sport of a somewhat similar nature. I hope he will find he is able to show us a vase of it at our annual show this year.

A mixed quotation read with a modicum of common-sense puts the case of the Sweet Pea, the Dahlia and several of our more popular favourites in a nutshell:

"Break, break, break;

. . . .

Then men may come and men may go,
But I go on for ever."

A Sweet Pea Reference

IN the "Sweet Pea Annual" for 1920 Mr. C. Harman Payne wrote that young lady readers might spend a few dull evenings in the winter

unting through the pages of their favourite oets to discover references to the Sweet Pea.

In that for 1921, which has lately come into ıy hands, I discover that that great Sweet Pea ver, Miss Philbrick, who was President of the ociety in 1905, has taken up the challenge and ontributed a few poems and references.

May I add another, which to me is quite ew as it comes from the writings of a poet vho may have been the vogue in the early ears of the nineteenth century, but certainly s not in this? I refer to James Hurdis, who vas a D.D. and who died in 1801. He wrote everal poems dealing with rural life, but I have ıot been able to find out the reference for the ines which I now quote.

". . . . And much I love
To see the fair one bind the straggling pink,
Cheer the sweet Rose, the lupin, and the stock,
And lend a staff to the still gadding pea."

And Sweet Peas can gad about to some tune. Mr. Alexander Malcolm tells us in this same Annual what a time he had with one which took up over 6 feet of a row and produced no less than 1,635 flower stems! What would Dr. Hurdis have said to that? J. J.

Wire-Netting for Sweet Pea Clumps

LAST year I decided to use wire-netting for the Sweet Pea clumps in my garden, as the clumps were all round the borders of a grass lawn. The initial expense, compared with sticks, was rather large, but as the wire can be used again and again, the first cost is of little moment. I purchased 25 feet of wire-netting, or half a roll, of 2-inch mesh. Four feet of this was used for each clump and is ample for twelve Sweet Pea plants. I also bought fifty stout Bamboo sticks, each 7 feet long. Three of these were used for a clump, and were driven into the ground with a mallet; the result being a very firm fixture. The Pea plants appear to cling very readily to the wire, and have a much more tidy appearance than with sticks. From the interest shown in my clumps I should think that this method of using wire-netting must be unknown. The year before I spent several shillings in sticks for the same number of clumps and have nothing to show for the money, whereas the netting will last some years. The wire is joined by twisting the cut ends together with the fingers, and the sticks are interlaced with the meshes of the netting. CLARENCE PONTING.

Achimenes as Basket Plants.—These are excellent subjects for hanging baskets, and where this method of plant growing is practised they should certainly be included. Before placing the soil and corms in position, the baskets should be lined with moss, and the corms should be so distributed that when the plants are in flower the baskets will be hidden. Good drainage is essential, and a fairly light compost is best, to which may be added a small portion of dried cow manure. Their well known reputation as pot plants also is fully merited.

THE BEST ANNUAL for GARDEN and HOUSE

Sweet Peas give Glorious Effects while Growing, and are Equally Valuable as Cut Flowers

THERE was one warm week in early August, when the days were dull and rather oppressive, and almost every variety of Sweet Pea was at its best. They had reached the climax of their beauty. To see them filling the rows with gorgeous colours, scores of sprays to every yard, was worth all the little extra care in cultivation that this most beautiful Queen of Annuals asks. It made one forget the disappointments of the previous months, when buds dropped by the hundred in days of incessant rain.

I cannot do better than give you a mental picture of my Sweet Pea rows as they appeared on one of these August evenings: It is an hour or so before sundown. That is the best time for seeing the full beauty of the blooms. In the softened light many pinks that look quite common-place in the sunshine take on a richer hue; purples and blues, mauves and lavenders are all more delicate in shade, less harsh than in the brighter light.

At the end of this first row is a big batch of Maud Holmes, still a fine crimson for the garden, with many a double standard and many a four-bloomed spray. Near it is a soft cream pink—Helen Stapylton—perhaps outclassed by some of the newer introductions, but charming nevertheless. Next comes Rosabelle, at its best when seen in the rows or freshly cut, for the rosy carmine loses its brightness in water. Flanking it is a big lot of Lady Evelyn Eyre, so closely akin to Mrs. Hardcastle Sykes, once the gem of all decorative Sweet Peas.

In another row is a fine stock of Hawlmark Pink, rich in colour and showing its deepest flushes on the wide folding wings. Then at its side is Mrs. Tom Jones, the brightest bit of blue yet produced in Spencer form. Now comes Constance Hinton, the biggest and boldest white with a density of petal and a broad stand that helps to retain its popularity year after year A dainty veined blue, Helen Pierce Spencer is on the other side, and although it gives few big blooms, they are very pretty for decorative work. Jean Ireland, a charming picotee-edged variety, with a cream ground and rose pink margins, is next; and then comes Royal Purple, a good grower and very distinct. There are some fine novelties in this, the third row. Magic, a purple and amethyst bicolor, is only good in fine weather, and the rain soon spots it. Annie Ireland is another dainty picotee-edged variety, differing from Jean in having a white ground. Gold Medal is a cream and peach bicolor with very long stems, and then comes Victory, with even longer stems and huge lavender flowers of a particularly silvery appearance. Dobbie's Maroon supplies a contrast, and its rich mahogany flowers have no trace of objectionable purple. Daisybud, a pretty pale pink, gives superb blooms, nearly always in fours and very frilled. Brocade, a mauve pink, has a silky sheen when at its best, and it loves the sunless days. Tea Rose might almost be taken for a cream if it were not for the pearly tint that gradually creeps into the flower as it opens. Pink Pearl needs no description—the name is sufficient.

And here are some delicate shades that only the dull days, or shading from the hot sunshine, can show to their fullest advantage. Golden Glory and Tangerine, of richest orange; Barbara, with salmon-coloured flowers; Joan of Arc, a soft salmon pink; and Mrs. G. W. Bishop, the most exquisite of cerise shades with a salmon suffusion—all these are lovely when well grown. The orange pinks and orange scarlets, Edrom Beauty and Hilda, Edward Cowdy and The President, are dazzling shades when the [illegible] does not bleach them or the [illegible] their brilliance.

SUPPORTS THAT WILL LAST FOR YEARS.

In this row of tall-growing kinds is Cecily, the finest of all the pale cream pinks, almost every spray a four. There is Doris, too, of cherry pink, equally vigorous and in its colour equally beautiful. No less attractive is that finest of all the blush pinks—Valentine—so rich and yet so delicate in tone. It grows beside a batch of the most brilliant of all the scarlet shades—Mrs. C. P. Tomlin—and in this variety one rarely, if ever, comes across a scorched bloom. Completing the row of giants is Climax, towering above the top of the netting with stems that are the stoutest of all and fours in plenty.

In other rows you can pick out the brilliant Alexander Malcolm, a fine scarlet cerise; Ivorine, of delicate ivory with a faint flush of pink, just a suspicion of colour that removes it from the creams; Dora, a bright rose and blush bicolor; the vigorous R. F. Felton, a lavender livened by a tinge of rose; Royalty, a little richer and softer in tone than Royal Purple, but hardly as vigorous; Felton's Cream and Dobbie's Cream; the dark maroon, Warrior; Mrs. Wakefield and Salena, both with rather more rosy pink than Jean Ireland; King George and Lavender George Herbert, two dainty lavenders with a distinct edge of rose; Jack Cornwell, V.C., and Commander Godsal, two of the best of the navy blues; and a host of pinks and cream pinks, Mrs. Arnold Hitchcock, Attraction, Edith Cavell, Hercules, Hebe, Unwin's Pink and Margaret Atlee. If I were asked to pick a favourite I should hesitate between this last named cream pink and Cecily, with Valentine, Attraction and Mrs. Bishop close rivals. All are lovely in the garden, but under lamplight they are still more charming. When the lamp shines on them and reveals their radiant glow it is even more difficult to choose the best. NORMAN LAMBERT.

Lithospermum rosmarinifolium in Midwinter

WHAT can be more charming in midwinter than this pretty flowering and dwarf shrub? The severe frost last December brought it into notice, as so many less hardy shrubs were either killed down to the ground or too much cut to flower as usual. So its real merit has at last been recognised for semi-shaded positions on this coast. Those who possess a cold house for alpines or any fairly sunny unheated glass porch in England would do well to cultivate this pretty little shrub, that cannot hope to come to perfect beauty outside under the vagaries of an English winter—so "bitter-sweet!" As the plant grows leggy with age, it is well to pull the shoots down and layer them all round. By so doing a delightful mound of turquoise flowers will be the result in the months of January and February. Unlike many of the Lithospermums, this plant does not object to a strong limestone soil, though I should always recommend the shoots to be layered in a little leaf-mould or sandy peat.

Nice. E. H. W.

MY IDEAL DELPHINIUM

An Amateur's Outcry Against Modern Tendencies

I HAVE been looking at catalogues of Delphiniums. Is there not something wrong with the ideal flower at which some of our great florists seem to be aiming? To my mind far too many of the modern varieties which have received awards of merit have suffered from having their flowers too closely arranged on the spike or from being too impure in colour. There is a Delphinium named Sir Douglas Haig which received the award last year; it is doubtless a stately plant, but the double flowers are huddled so closely together that the spike has no more shape than a preposterously elongated Brompton Stock. Compare this variety or those like it with better spaced ones, such as The Alake or the old Duke of Connaught: surely the latter have infinitely more grace and distinction of carriage.

A BEAUTIFUL GROUP OF DELPHINIUMS IN A BORDER OF MIXED PLANTS.

It would be too much to say that the ideal tall Delphiniums ought to have a tapering rather than a blunt-topped spike, for some of the blunt sorts are very fine in their way; but in my own seedbed I should almost always select the seedlings with a tapering spire so as to retain the gradation of sizes which can be so delightful in the Delphinium as well as in the Foxglove. Of course among the shorter sorts related to D. Belladonna there are many which are perfect with a blunt spike, such as the beautiful J. S. Brunton. It is in taller sorts that the need for varying the shape makes itself specially felt.

Colour.—As regards colour, I suppose many amateurs have wandered, as I have, with a feeling of hopelessness from bank to bank of Delphiniums in the shows, marvelling at so consistent an absence of the pure blue colour of which the plant is capable. Why is it that so many growers persist in selecting muddled muddy purples for their named varieties? Surely it cannot be that the gardening public prefer these colours, colours which can be represented in the garden by so many plants less uniquely gifted than the Delphinium. There was once, at the great flower show at Olympia, an astounding display of Delphiniums by one famous firm. It occupied the whole of one curved end of the building. Yet in all this vast wall of flowers, comprising tens of thousands of spikes, there was, I remember, hardly one note of really pure unsullied blue. One can see the same phenomenon in any summer flower show to-day, and one can only suppose the cause to be that in most cases trade growers are not aiming at blueness at all. I remember one grower telling me that he annually threw away hundreds of seedlings that were merely blue, for he had set his heart on raising one that should be as nearly as possible pink! Pink Delphiniums and those deplorable blue Roses! There must be hundreds of amateurs to whom such an ambition in dealing with the noblest of all blue flowers seems simply a perversion of taste, and who, like myself, when reading Delphinium catalogues, skip over the items described as "flushed with mauve," or "shaded purple"; and, when looking at banks of Delphiniums at Chelsea shows, instinctively pass over all the purple bunches except for an occasional Alake or Lamartine. If a word of mine could reach the ears of those magicians who have given us so many of the glories of our gardens and who have acres of Delphiniums to choose from, the word should be this: Give us a Delphinium True Blue or a Lizzie van Veen of superb constitution. Remove the least stain of purple from the Duke of Connaught. Let us have more like that magnificent Blue Bird (Tucker of Oxford), and fewer like Mrs. Shirley and Mrs. Colin McIver. When you give us a purple let it be finely spaced like The Alake, not crowded like Henri Moissan. And remember that of all colours violet is the least luminous, the least exhilarating. (If you want to prove this go and look at a spike of D. Smoke of War in an exhibition tent.) Blue is a rarer colour and infinitely more heartening to see.

Novelties.—And one other word I should dare to say to that magician. Do not let your glorious and beneficent trade become degraded by the introduction of preposterously high prices for "novelties." Reasonable

ie tradition which has done so much to keep obbery out of gardening, the tradition which ill, happily, makes it "bad form" to charge ore than 10s. 6d. for a new Rose. The Narcissus is long fallen a victim to that unhappy passion r possessing what others cannot afford to buy; ie Iris is now beginning to suffer from the same bjectionable malady. Presumably there will ways be rich people, in America if not at me who will be prepared to pay £5 for Iris A, not just because it is a noble thing, but simply because it is more costly than Iris B from across the Channel, and because, for that reason, so-and-so will not possess it. There is, I am afraid, no economic law which will prevent the spread of this disease among the Delphiniums and Pæonies: nothing but an honourable tradition. But it is that tradition which has helped to make gardeners such pleasant generous people. W. E. ARNOLD-FORSTER.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Carnations.—These may now be planted upon he first favourable opportunity, unless the soil s of a cold and heavy nature, in which case delay or another few weeks. The exact cultural details o give best results are only obtained by giving ip beds or portions of borders entirely to them, ut this is not possible in many cases and earlier-lowering subjects must be introduced with them. Such may include Violas of various shades, Pinks nd some autumn-sown hardy annuals.

Pruning.—The latter part of February is a good time to give attention to various shrubs, evergreen and deciduous, and do what pruning s required. Some plants only require weak and straggling wood removed, such as deciduous Magnolias, Chimonanthus and Lauristinus. Others, such as Forsythias and Honeysuckle, should be cut back to within a short space of the old wood, while the strong-growing varieties must be pruned to keep within moderate dimensions. Ivy on walls may now receive its first pruning.

Planting.—All outstanding work of this nature in connection with deciduous trees and shrubs should now be completed at the earliest possible date.

The Kitchen Garden.

General Work.—Much will now depend upon the weather and texture of soils as to when this or that operation may be done, but the important point is, never miss a good opportunity providing the season has arrived for any particular subject to be sown or planted.

Onions.—The ground for this important crop having been autumn dug and thrown up rough will, in light soils at any rate, be now in workable condition. Seize the first favourable chance, therefore, and get the seed in. Endeavour by treading and rolling to get the ground firm and in good tilth, and sow in drills about a foot or 15 inches apart. Should the soil be of a very light nature, the seed may be sown a little deeper than on heavier ground.

Beet.—Where a slightly heated frame can be spared for the purpose a small sowing should be made to provide a few early roots.

Tomatoes.—Early in March is a suitable time to make a good sowing for summer fruiting, and a good outdoor variety should be included at this time.

Other Seeds.—A few Vegetable Marrows for early use should be in, also Capsicums, sown in heat, pricked off, and fruited in 5-inch and 6-inch pots. In a cold frame make a small sowing of Cauliflowers, Cabbages and a few others of the Brassica family to make sure of a supply coming along. The first pinch of Celery seed must also be sown in gentle heat, pricked off when large enough to handle, and grown on in boxes to make a sturdy first batch.

The Hardy Fruit Garden.

Mulberries and Medlars.—Where trees of these fruits have become crowded it may be advisable to remove sufficient wood to admit more air and sunshine.

Nuts.—A plantation of these trees providing valuable food is seldom met with, and yet in addition to their food properties I think there is a distinct attraction about them, and they could with advantage to many gardens and woods replace some of the shrubs doing duty at the present time. Any pruning necessary may be done now, taking care to leave plenty of wood carrying male catkins to ensure a good supply of pollen for fertilisation. All suckers should be removed.

Fruit Under Glass.

Raising Vines.—Probably the raising of Vines [illegible] practised unless in very large fruit establishments, as the expense incurred in planting a fresh lot of rods occurs only at very long periods, and the rods may with advantage be obtained from a reliable firm. Should the raising of a fresh lot of young Vines be contemplated, the present is a good time for the purpose. Select buds from well ripened wood, allowing from half to an inch of wood each side of the bud. The buds may then be inserted in small pots or in small squares of turf and placed in a warm moist pit where activity will soon be in evidence. Be careful of excessive moisture until the roots are active.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Spinach.—An early sowing of round or summer Spinach should now be made on a sheltered border. Many growers like to utilise the space between rows of early Peas for this purpose, and excellent results may be had, but it is often necessary to sow a fair breadth for early household requirements as it is undoubtedly the earlier crops of Spinach that are most appreciated; therefore sow in drills about 1 foot apart and 1 inch deep. It is essential that the crop should be thinned early, otherwise the plants become drawn and run to seed more readily.

Parsnips.—These like a long season of growth so advantage should be taken of the first dry spell to get in a sowing, providing, of course, that the ground is in good workable condition. The site of last year's Celery trenches would prove a suitable place, otherwise it is advisable to make the sowing on ground which has had the advantage of trenching or double digging.

Tomatoes.—Early lots should now be pricked out and kept growing steadily in a warm pit. Damping off is often troublesome at this stage; more especially should the weather be dull, so extra care should be taken when watering. Additional sowings of standard varieties may now be made for the regular season's crops. One of our best varieties last summer was Purdie's Clydesdale; this sort matures quickly, is an excellent cropper, and is admirable for market work.

Lettuce.—Sowings may now be safely made in the open. The Cabbage varieties are most suitable for the earliest crops. Early Paris Market and Sutton's Favourite make a good succession.

Plants Under Glass.

Propagating.—It will now be necessary to propagate many of the soft wooded plants, and they will be found to root readily if bottom heat is provided. Heliotrope, Lobelia and Alyssum should all be put in now.

Summer-Flowering Chrysanthemums.—Stools of these which were lifted and placed in boxes for the winter will now be throwing up cuttings freely. These should root quickly if dibbled into sandy soil and kept shaded from bright sunshine. To obtain good strong plants of these it is necessary to transplant into a nice compost and grow on in a cool frame till near the bedding out period.

Gloriosa Superba.—Tubers of this elegant stove plant should now be shaken out and repotted in a mixture of peat and turfy loam with a liberal sprinkling of sharp sand. An ordinary sized tuber will be ample for a 7-inch pot. See that the drainage is correct, while water must be used sparingly until growth is started

The Flower Garden.

General Work.—Should the pruning and tying of climbing plants on the walls and pergolas be completed, any beds or borders requiring digging should be gone over when the weather is fine. Beds filled with spring-flowering plants will be benefited by stirring the surface with a small hand-cultivator, care being taken not to disturb any bulbs that may be breaking through.

The Rose Border.—Roses which are established need an occasional look over to see that none becomes loosened at the neck through the action of the wind; a cavity round the stem is often caused in this manner. Make the soil firm and secure with a stake till pruning time comes round. Plants are often destroyed through carelessness in this respect. When necessary the stakes to tall standards should be renewed.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

TREES AND SHRUBS.

FIR TREE ATTACKED (*W. F. W., Stourport*).—The branch sent is that of a species of Abies, probably A. nobilis. It has apparently been attacked by a chermes, an insect that often causes galls on these trees and which is very difficult to deal with, especially when any Larches are in the neighbourhood, for the insects pass part of their time on the leaves of Larches. We fear little can be done in the present case.

ROSE GARDEN.

PRUNING ROSES (*Brookside*).—Mrs. Paul and George Dickson should be pruned to about 6 inches of their base. The following Roses should be pruned hard: Pharisaer, Ophelia, Mme. Edouard Herriott, Gorgeous, General McArthur, Mrs. Ambrose Ricardo and Sunburst. The Lyon Rose should be moderately pruned.

MISCELLANEOUS.

PLANT FOR IDENTIFICATION (*L. J., Glos.*).—The plant described by our correspondent is Pileostegia viburnoides, which belongs to the natural order Saxifragaceæ. It is a native of the Khasia mountains and Eastern Himalayas. With habit like the Viburnum, it is probably hardy in this country. It will thrive in limestone soil, provided lime is not excessive.

BLACK AND HEAVY SOIL UNFERTILE (*Eager Bill*).—We think that in all probability the soil is not well drained. If this is so we fear it is hopeless to improve it. If it is well drained have the same trenched 2 feet deep, and give the soil in the trenches a good dressing of lime and road grit (free from tar) as it is turned over. Afterwards give the surface a light dressing of rotten manure in spring, digging it in a few inches deep before planting any crops. If our correspondent cannot trench the whole of the ground this winter, give the rest of the soil a good surface dressing of lime after it has been dug, and fork it in about 4 inches deep as the crops are being planted. Sow Broad Beans now, also Parsnips. Try Potatoes again later on. Lay the manure in the rows for them, also give the rows a good sooting at the time of planting, as well as the tops, as soon as they are above ground. Try Leeks, Brussels Sprouts, Cauliflowers and Curly Greens of sorts. Sow the seeds early in March, and plant the young plants out about the end of May They should make most useful stuff for the winter.

SUITABLE WATER PLANTS FOR A SMALL POND (*G. W. A., Surrey*).—Suitable varieties for the small pond should include Sagittaria japonica flore pleno, of which three or six plants would form a nice group; three varieties of Nymphæa odorata, together with other Nymphæas, as Laydekeri rosea, chromatella and gloriosa, if these are not too costly for our correspondent's purpose. Much of the success of these depends upon the quality of the water, hard or soft; and as we gather from our correspondent's letter that the water is hard, it will probably be found difficult to grow the choicer sorts. For the margin, if of grass and soil, try Caltha palustris flore pleno, C. polypetala and C. Tyermanii; Astilbe ceres, A. Queen Alexandra and A. Silver Sheaf; Saxifraga peltata; Funka japonica, F. ovata and F. aurea; and Primula Bulleyana, P. pulverulenta and P. japonica. Spiræa palmata, S. Venusta and Iris Kæmpferi, a little farther away, would be also of good effect. Plant all in prepared and cultivated soils. All these plants are obtainable from Mr. Amos Perry, Hardy Plant Farms, Enfield; or Messrs. R. W. Wallace and Co., Tunbridge Wells.

THE IMPORTANCE of SOWING EARLY

IT is from April to the end of June that our vegetable supplies are likely to be at their lowest ebb. With this thought in mind we should at the present time turn our efforts to the cultivation of early vegetables to take the place of diminishing supplies of root crops and winter greens. Special attention should be given to those crops which grow speedily—the Carrot, Turnip, Onion, Lettuce, early Peas, Broad Beans, early Potatoes, Radish, Globe Beet, early Cabbage and Spinach. In our uncertain climate we cannot attach too much importance to raising and growing vegetables under glass. Vineries, Peach-houses, frames and hotbeds can now be put to good use by raising seedlings or by growing early Potatoes for supplies during April, May and June.

Making the Most of Sunny Borders.—A great deal may also be accomplished in the open, but this is governed by weather conditions. Warm south borders, especially if they happen to be under a wall, should be prepared and made up with light, rich soil for sowing early Peas or for planting such early Potatoes as Myatt's Ashleaf, Ringleader, Witch Hill, First Crop, May Queen, Sharpe's Express, Epicure, Midlothian Early and Sir John Llewelyn. In preparing early borders the ground should be made to slope gently to the south. This may seem a little matter, but it makes the difference of a few weeks in the time of lifting the Potatoes or picking the earliest Peas. Again, the rows should be placed due north and south, so that each row receives the maximum amount of light and warmth from the sun's rays. Unless the border happens to be facing due south, this will necessitate arranging the rows in a slanting direction; but, after all, there is no reason why the rows in a border should run at right angles to the garden path save for the conventionalities which so often dominate the kitchen garden. These little points are worthy of attention; they make all the difference between vegetables and early vegetables, and recall Browning's saying: "The little more and how much it is."

Early Peas and Potatoes.—Fortunately, these two important crops may be grown together in the same border for the earliest outdoor supplies. Early Peas that do not grow more than 2½ feet high should be selected, such, for example, as Pilot, Pioneer, Hundredfold, Little Marvel, American Wonder and The Sherwood. Sow in February in drills 3 inches deep, leaving the seeds about 1½ inches apart, sprinkling wood-ashes along the drills at the rate of a handful to the yard run previous to sowing. For early Peas the seed should be sown thicker than for the later crops.

There is a certain advantage in growing Peas and Potatoes together on an early border, for rows of Peas afford protection to the Potatoes from frost and cold east winds. The damage to plants by frost is greatly increased by the bright morning sun which so often follows a frost, and if the Potato tops are only shaded for the first few hours they may escape without injury. Now this is where the early Peas are so helpful to the Potatoes, for by growing Peas at every fourth or fifth row they shelter the Potatoes from east winds and give shade from the sun, which is so much needed on frosty mornings. Early Potatoes may be planted in February or on the first dry days in March in rows 2 feet apart, leaving at least 1 foot between the sets. Plant in shallow trenches and cover the tubers to a depth of 4 inches with fine leafy soil. Dry litter should be kept close at hand to give a light covering to the rows on the approach of frosts, removing it as soon as danger is over.

It would be possible to have new Potatoes in April by planting well-sprouted tubers singly in 10-inch pots or several in boxes about 9 inches deep, standing the pots or boxes on the borders of an early Peach-house or vinery where a temperature of 55° to 60° is maintained. The boxes should not be much more than half filled with soil to allow for top-dressing as growth takes place.

Sprouting Potatoes.—By sprouting the seed Potatoes in the following manner the crop will be ready to lift at least two or three weeks earlier than if dormant seed is planted. Put the tubers in full daylight in a place safe from frost where little or no artificial heat is applied. The staging of a cool greenhouse is a very suitable place. Put the tubers in single layers in trays or shallow boxes, standing them on end with most of the eyes uppermost. This should be done without delay, so that, by the time the planting season comes round, the sturdy green sprouts should be about an inch long. Remember that every weak and anæmic-looking sprout produced in the dark is worse than useless, for it means so much exhaustion to the parent tuber. All weak growths should be rubbed off, leaving only one or two strong shoots.

Making a Seed-bed.—The preparations for sowing are of the utmost importance. It is waste of time and valuable seed to attempt to sow if the soil is in a rough and lumpy condition. The ground must first of all be dug or trenched, at the same time incorporating with the soil a dressing of well-rotted manure: fresh stable manure should be avoided. The soil must be light, fine and friable on the surface, and, what is still more important, it must be fairly dry at the time of sowing. To attain this end, early seed-beds must be made up with leaf-soil, old Mushroom-bed manure or exhausted hotbeds, and any light, rich soil, such as old potting soil, sand or road-scrapings from roads on which there is little or no motor traffic. Lime is of value so long as it is applied at least three weeks before sowing, and wood-ashes should be applied in the drills at the time of sowing.

Broad Beans.—On well-drained soil the seed of the early crop may be sown in January or February. Sow in double lines in drills prepared as advised for Peas, placing the seeds about 3 inches apart and allowing about 2 feet between the double rows. The secret of success in growing Broad Beans is to get them in as early as possible, otherwise the crop may be ruined by the dreaded black fly, which never fails to make its appearance when the Beans are in flower. The Longpods are preferred for early sowings.

Carrots.—A sowing of Early Nantes or Short Horn Carrots should be made now in a frame over a mixture of leaves and stable manure, which will create a mild bottom-heat. The lights should be kept closed until the seedlings appear through the soil, when a little ventilation may be applied in the daytime.

Onions.—There is not the least doubt that Onions raised under glass in January and February will repay the additional time and trouble involved. Varieties like Ailsa Craig and Cranston's Excelsior should now be sown in well-drained boxes filled with a mixture of good potting loam, leaf-mould and gritty sand, using it in a moderately dry but firm condition. Failing a heated pit, a suitable place for raising the seedlings is an early Peach-house of vinery. Onions require a long season of growth, and by raising them early under glass they are better able to withstand the attacks of the Onion fly when planted out in April. This pest was responsible for very heavy loss among spring-sown Onions last year

Brussels Sprouts.—I will conclude by strongly recommending the rearing of this popular winter vegetable in gentle heat, subsequently hardening the seedlings off in a frame, ready for planting out in April. Brussels Sprouts require a longer season of growth than any other member of the Cabbage family, and it is only by sowing early that the very best results are obtained. Plenty of space is necessary for development when planted out 1 yard between the rows and 2 feet 6 inches between the plants will not be too much, but that useful variety, Dwarf Gem, may be planted a little closer.

H. C.

The Late Mr. James Coey

THE news of the death of Mr. James Coey of the Donard Nursery Company, Newcastle, Co. Down, who passed away on February 8 after a brief illness at his home at Larne, Co. Antrim, will come as a shock, and bring a sense of loss and sorrow to all who knew him.

Mr. Coey was well known for many years throughout the United Kingdom as a successful breeder of shorthorns, and was a recognised authority in other important branches of agriculture.

Although an ardent lover of flowers and plants all his life, it was only within comparatively recent years that he took up horticulture as a business. He established his nurseries at Newcastle, some eight or ten years ago, chiefly with a view to specialising in Daffodils, but his interests extended beyond these, and he grew, in addition, an extensive and most interesting collection of rare and choice flowering shrubs and herbaceous plants, of which he had an unusually wide and intimate knowledge. The work of getting together this notable collection gave him the keenest pleasure. He spared no pains to get hold of the very best things. Not only did he import plants and seeds from remote parts of the globe, but went himself from time to time to the French, Belgian and Dutch nurseries in search of good novelties.

Daffodils, however, had the largest place in Mr. Coey's affections, and his choice of the mild climate and kindly soil of the Co. Down coast for their cultivation has been more than justified by results. During the Daffodil season he accomplished an astonishing amount of work. Spending as he did much time among his flowers, he was also present at most of the shows, and contrived to pay flying visits to most of our great hybridists in eager quest of good things, which he spared no expense to acquire. He entered into it all with the zest of a schoolboy; I remember one occasion when an unfortunate accident prevented him from being present at Birmingham; he arranged that his manager should telephone to him in Ireland as soon as the judging was over and tell him how his flowers had done! Great was his delight on hearing that his big group had been awarded a gold medal. To accompany him to a show or on one of his novelty hunting expeditions was a joyous adventure. He introduced many grand new Daffodils, probably the most outstanding of these, and the one with which his name will be remembered, is Magnificence, the glorious Ajax of flaming sunshiny gold, so wonderfully early that it comes into full bloom at Newcastle in February, its first flowers being open this mild season at the end of January. Mr. Coey was a keen hybridist and was ever experimenting, not only among Daffodils, but with other plants, the beautiful Escallonia, Donard Seedling, being raised by him. A number of fine seedling Daffodils have already flowered at his nursery, and many others are coming on. One grieves to think he will not see them bloom.

GUY L. WILSON

THE GARDEN

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NOTES OF THE WEEK

[March 5, 1921

A LARGE number of circulars have been posted to this country from Continental firms offering bulbs, plants and Roses at what appear to be very tempting prices. Such circulars are unfortunately very much on the increase, and some of our readers who have sent orders have been greatly disappointed at the results. We are constantly receiving enquiries about such foreign firms, and our advice to readers is that it is far better to place orders with British firms of good repute rather than to be led away by tempting foreign circulars. Every issue of The Garden contains advertisements from the leading firms in the horticultural trade in this country, and readers will further their own interests by dealing with them. Nurserymen and seedsmen are supporting our efforts to encourage the revival of gardening and in turn should be supported.

Nigellas for Mixed Borders.—These hardy annuals are splendid subjects for massing well to the front of mixed borders. They are especially useful beside more solid looking flowers, such as the Carnation, of which the glaucous foliage tones up into the mist-like grey-blue flowers of the Nigella—partly buried as these are among the feathery foliage. There are several varieties, among which Miss Jekyll is one of the best, though the white form and the Hispanica varieties are very good. The seed, which is large enough to be sown thinly without difficulty, should be sown about mid-April and covered with a quarter of an inch of fine soil. A sunny, open position is desirable, with a well dug moderately rich soil, thinning the seedlings, when well up, to about 9 inches apart each way.

A Neglected Rhododendron.—Though first introduced from America in 1736, Rhododendron maximum is cultivated in comparatively few gardens. A native of the United States, in a wild state it is described as an evergreen tree up to 30 feet in height. Specimens half this height are rare in cultivation. The flowers are white, tinted or flushed with rose, not large, but valuable because they open during the second half of June and July. It has not been much used as a parent in our present race of garden Rhododendrons, but with the introduction of R. auriculatum and R. discolor from China the subject of this note should be useful to cross with these species with the idea of obtaining a summer-flowering race of evergreen Rhododendrons

A Double-Flowered Plum.—The illustration on the front cover of this issue depicts the purple-leaved Plum (Prunus Blireiana fl.-pl.). This double flowered Plum improves as it grows bigger and older. The colouring seems brighter and the flowers larger in every way, so that in a few seasons it should be very attractive. Perhaps the colour is a little paler under glass, but all the same it is a very desirable subject for early forcing, for though its colour is not as fresh as P. Mume can be, it is more lasting, as well as of greater size of petal.

Pruning Outdoor Vines.—Where Grape Vines are grown outdoors either against walls or poles they should be pruned without delay, if not already done. If grown upon the spur system, the lateral shoots should be cut back to about two buds from the base: but if on the extension system, the wood growth laid in during the summer to take the place of those that bore fruit during the past year must be cut back to a plump bud, leaving about 4 feet of the shoots. The last-named system is preferable for Grapes growing out of doors, as the shoots grow away more freely than those on the spur system. Should the Vine be infested with red spider, give the wood a good dressing with a mixture of water, soft soap and flowers of sulphur, with quicklime. The mixture is made by boiling 1lb. of sulphur with 2lb. of quicklime in 4 gallons of water; then to every 4ozs. of this add 2ozs. of soft soap and 1 gallon of boiling water, thoroughly mixing together and keeping the whole stirred when in use. When ready it may be applied to the bark with a stiff brush and well worked in. This will be found a cheap and effective preparation.

RHODODENDRON MAXIMUM, FLOWERS WHITE FLUSHED ROSE.
A little known species worthy of extensive cultivation.

Fruit Trees Under Glass.—The remainder of these may now be taken in hand and transferred to their inside quarters. The Peaches and Nectarines which have been housed earlier will soon be flowering freely, so care should be taken that they do not get dry at the roots. Apples and Pears, after being pruned and sprayed, should be placed in the coolest corner of the house. The structure should be kept well ventilated, taking care that the trees when flowering are not subjected to cold draughts.

The Alexandrian Laurel.—Everyone who cares for plants of interest should grow this useful decorative shrub. There are many evergreens useful for decoration during the winter, but none can equal Danæa Laurus, with its graceful, glossy shoots. It is not difficult to grow, and when once established its elegant shoots can be cut quite freely and will remain fresh for a long time. It is closely allied to the Butcher's Broom (Ruscus aculeatus), being sometimes known as Ruscus racemosus, but more free and graceful in habit, the rich, glossy colour of the leaves and shoots having the grace of the airy Willow, or Bamboo, with the glossy green of the Camellia.

Forcing Shrubs.—Azaleas, Wistarias, Deutzias, Viburnums and Rhododendrons should be brought into heat to keep up a display, timing a number suitable for Easter decorations. Transfer any that have passed out of flower into a temperate house to complete their growth. Some may require pruning back, but one's own judgment will guide them regarding this. Syringe morning and evening, as this keeps down aphis and encourages the hard woods to break more freely.

The Midland Daffodil Show at Birmingham is fixed for April 13 and 14. It is hoped the usual informal dinner for members and their friends will take place on the evening of the first day of the show.

FORTHCOMING EVENTS.

March 7.—Nottingham Chrysanthemum Society's Meeting.

March 8.—Royal Horticultural Society's Fortnightly Meeting. Lecture by Dr. A. B. Rendle at 3 p.m. on "Plants of Interest in the Day's Exhibition"

March 9.—East Anglian Horticultural Society's Meeting.

March 11.—Royal Horticultural and Arboricultural Society of Ireland Council Meeting

CORRESPONDENCE

THE BEGONIA MITE.

THE note on the above subject, by "C. B." on page 77, is timely and should be studied by all those who cultivate not only Begonias and the other plants mentioned, but also Streptocarpus and Gesneriads generally, together with Acanthads, Bouvardias and Primulas. The pest is a species of Tarsonymus, and I have seen the same, or an allied species, cause all the leaves of Crotons to fall, and the young leaves and shoots of Vines to cease growing. In these cases, spraying with clear soot water was found to be a remedy. Nowadays dipping the plants, where that is possible, in a nicotine wash is a certain cure. I remember a case where a young gardener was discharged because his Gloxinias were a total failure. Next year the plants were put under the charge of a good cultivator of soft-wooded plants, but he got into the same difficulty when a fine batch was in full growth, and came to me with samples of the leaves to see if I could find what was the matter. I showed him the small colourless mites, and he syringed the plants with a strong solution of soft soap and kept them in a steamy atmosphere for some days, and the plants completely recovered.—H.

SHOULD RASPBERRY CANES BE TIPPED?

I AM bound to agree with Mr. F. W. Miles on this question (page 74). In my experience it is better to allow the young canes to remain at full length than to shorten them. I have noticed that if a wet season should ensue after the canes have been shortened (or "tipped," as it is usually termed) the young growths springing from the cut portion of the canes are very soft. Of course, in some cases the tips of the young canes die back an inch or so during winter, and in these circumstances I think it is better to remove such dead wood.—F. G. BUNYAN, *Lannoch Manor Gardens, Stevenage.*

IN reply to Mr. Miles (page 74) *re* the above practice, my reasons for so doing are precisely the same for his not doing so, *i.e.*, I consider the best results are obtained by tipping the canes. Regarding the actual practice of tipping (not always commendable, I will admit), I do not wish to be misunderstood; I do not advise cutting away good wood with sound buds capable of carrying fruits, but the weak tips often to be seen on the tops of Raspberry canes, which if not cut back do not, in my opinion, possess sufficient strength to develop themselves, let alone throw out the finest fruits.—H. TURNER, *Albury Park Gardens, Guildford.*

POISON OAK AND POISON IVY.

A FRIEND writes me that the master of a country house where she has been staying has been badly poisoned about the hands and arms by the pollen of Ivy, while cutting away a quantity of old overgrown stuff. Is this possible? Is there anything poisonous or irritating to the skin about the pollen or any part of the common Ivy? I answered that it seemed so doubtful that I thought it likely that there may have been planted some years back among the Ivy, before the present occupation, one of the poisonous Ampelopsis, and that the leaves being off it had escaped notice. I hear again, in confirmation of the Ivy theory, that the intense irritation has been cured by the use of Phillips' Cream of Magnesia, and that with the directions for use it says that it is for, among other things, "Ivy and Oak poisoning." I write again saying that this quotation leads me to suppose that the healing preparation is of American origin, for we certainly have no Oak poisonous to the touch, whereas in America they have both Poison Oak and Poison Ivy; though I believe the Oak is a Rhus and the Ivy an Ampelopsis.—G. JEKYLL.

[The common Ivy (Hedera Helix) has long been said to be poisonous and to contain a bitter principle which is strongly cathartic, emetic and purgative, but there does not appear to be any record of its causing cutaneous eruptions. On the other hand the symptoms described by our correspondent suggest poisoning by one of the forms of Rhus Toxicodendron, known under the names of Poison Oak, Poison Ivy or Poisonous Vine. Some years ago a climbing variety of this species was distributed under the name of Ampelopsis Hoggii.—ED.]

BOX AND OTHER EDGINGS.

SIR HERBERT MAXWELL, in his interesting letter (issue of February 19, page 91) on the above subject, has gauged my mind to a nicety. The form of edging which he recommends when carried out irregularly is certainly very charming. Might I venture, however, to suggest that he consider the advisability of coming a step further forward with some of his bulbs and plant them among such subjects as the Mossy Saxifrages. What is more charming than, say, Iris reticulata or Crocus speciosus flowering amid the green of the former—little chance of inadvertently digging up the bulbs, no soiled blooms, and three harvests of flowers on the same spot.—FORMAKIN.

THE COLOURS OF EARLY SPRING FLOWERS.

IN reply to the question raised by "J. G. W." in THE GARDEN of February 19 regarding the prevalence of white or yellow among early flowers the following has always appeared to me to offer an explanation: The earliest vegetation, after the lichens, on this earth was green. From green to yellow is but a span (a Primrose, the artists tell us, is green); hence we find that the flower, or what passed for such (often only pollen grains), of practically all the most primitive plants were yellow. Witness the spore-cases of the Club Mosses, Ferns, Equisetums and other Cryptogams; note the anther cells or scales of the Cypresses, Pines and other Conifers. They are all yellow, or shades of yellow, and then when we come to the Dicotyledons we again find that tint prevailing in the pollen and generally also in the stamens, from which latter it is but a step to petals. It must, I think, be conceded therefore that yellow was the primitive colour after green, and it seems reasonable to suppose that those flowers which bloom in the early days of the year are following the habits of their remote ancestors. The opening year is to the former what the dawn of a geological age was to their more elementary forebears. In brief, as the day may be an epitome of a year, so may a year in botanical story be an epitome of an age. From yellow it is probable that flowers developed reds, and thence came purple and, lastly, blues. Some flowers give away the secrets of their past by opening red and changing to blue, as the Borages and Lungworts; and there are some who go even further, commencing with yellow and going through the entire process to blue, as does Myosotis versicolor.—A. T. J.

IT is not difficult to explain why the majority of spring flowers should be white or yellow, in the question raised by "W. A. J. D." and cited by "J. G. W." on page 86. By taking the flora of the Baltic, which corresponds pretty closely with our own, it is found that 33 per cent. of the flowers are white, 28 per cent. yellow, 20 per cent. red, 9 per cent. blue, 8 per cent. violet, and 2 per cent. brown. This corresponds with the brightness or effectiveness of the colours as a flag of attraction to insects from a distance. The first three colours are the most effective above their own green foliage, the grass or even brown earth. It is the contrast of colours that enables the eye of insects or of man to pick out the flowers from their surroundings, during the bad light of winter and spring. Brown is the least conspicuous and the first to be lost altogether in bad or fading light, while white flowers are the last to fade from sight, and may be visible at any hour of the evening or night, as I have observed. This is important in the case of night-flying moths and other nocturnal insects. When the Lesser Celandine and the Star of Bethlehem close at sundown they do not invite insects, and only display the green exterior of their flowers. Not all spring flowers are green or yellow even in Scotland. Nowhere have I seen Anemone nemorum redder than on the banks of the Dochart in Breadalbane. All the Willows are distinctly entomophilous, and insects follow them to the tops of the mountains. The stamens in this case are the flag of attraction, the filaments of Salix Myrsinites being purple and the anthers crimson. I have seen the catkins of this beautiful bush covered with large black flies at an elevation of 3,500 feet. It is still early spring on the top of the mountains in May when the deep purple Saxifraga oppositifolia is in bloom at the melting of the snow. At the same time the violet, purple and yellow Viola lutea amœna gives its colours to the meadows of Highland valleys.—HORTULANUS.

ON page 86 "J. G. W." propounds a problem which has occupied the attention of many botanists, without, so far as known to me, receiving a satisfactory solution. He desires to know whether attention has been directed to the preponderance of white and yellow in the blossoms of early-flowering British herbs. He might have included summer-flowering herbs in his enquiry, seeing that, notwithstanding the profusion of Wild Hyacinth and Foxglove, the large majority of our indigenous flora produces white or yellow blossoms during the summer months. The late Mr. Grant Allen discussed the question in his treatise on "The Colours of Flowers," wherein he gave reasons for his belief that the primitive colour in flowers was green, from which the first departure was yellow. Professor G. Henslow comments as follows upon this theory: "When we remember that the spore-cases and spores of Lycopodium, the anther-cells of Cupressus and the whole anther-scale of Pinus and all the pollens of Gymnosperms are yellow; again, when we come to Dicotyledons and find the prevailing tint of stamens is the same, we gather probabilities in support of that view." ("The Structure of Flowers," International Scientific Series, 1888, page 179.) Proceeding, Professor Henslow suggests that red was the next colour to be evolved, and that blue was the latest manufacture seems probable from its relative rarity in flowers, nearly all blue corollas containing an admixture of red. "Moreover," he continues, "when flowers individually change from one colour to another as they develop from bud to maturity, it is always in that order—*i.e.*, from red to mauves or purples, as in Echium and Pulmonaria; or even from yellows through reds to purples, as in Myosotis versicolor." All this, however, does not afford any explanation of the production of white flowers. From the frequent occurrence of white sports among seedlings, it would seem not improbable that it may

have taken place in the primitive green inflorescence, or in any of the colours developed subsequently, owing to the accidental absence or deficiency of colour-reflecting pigment. White flowers are more conspicuous than any others; any approach to white in a blossom would attract insect visitors more surely than the original green or later red, thereby securing the fertilisation of a preponderance of white or pale flowers, and the establishment of a white-flowering race in substitution for the ancestral hue. One is accustomed to assume that the red Hawthorn—*i.e.*, the natural variety, not the outcome of the florist's manipulation, such as Paul's Scarlet—represents a sport from the original white; but if the foregoing observations are near the mark, the converse may be the true sequence, white Hawthorn supplanting the red owing to its more conspicuous blossoms having ensured more complete fertilisation from flying insects. The red hue which not infrequently suffuses the petals of white Hawthorn when they begin to fade may be a hereditary trait. White and yellow flowers, being more conspicuous than any others, appear to have received most attention from insect fertilisers; but it must be owned that there is a difficulty in connecting cause and effect in the case of our earliest spring flowers, owing to the absence of active insect life.

"Wavers on her thin stem the Snowdrop cold,
That trembles not to kisses of the bee."

Never but once have I seen bees busy about Snowdrops, nor have I ever detected insect visitors to the winter Aconite. But white may have become the livery of the Snowdrop (retaining patches of ancestral green on the inner segments of the corolla), and yellow that of the Aconite under climatic conditions different from those which, in our time, usually keep bees in their hives until the bloom of both is overpast.—Herbert Maxwell, *Monreith.*

A REMARKABLE AZALEA.

I WAS very interested in the article under the above heading, page 69. The picture on the same page shows a really fine plant of Azalea indica, and illustrates what valuable plants they are where they thrive. They are quite at home here in these gardens. We have quite a goodly number of fine plants, but smaller than the one figured. Our finest plant of Azalea indica, "Optima," is 15 feet in diameter by 6 feet high. It is a late bloomer, and when at its best in June is a very imposing sight. Azalea ledifolia is represented by two very fine plants, the largest measuring 17 feet in diameter by 6 feet high. When in flower it resembles a bank of snow. I trust this will be of interest to Mr. Willcox.—H. Silcock, *Bassett Wood, Southampton.*

A BEAUTIFUL EARLY FLOWERING RHODODENDRON.

I WAS particularly interested in the notes on Rhododendron præcox, a delightful early flowering shrub (page 69), and I should like to draw attention to R. Early Gem. This by some authorities is considered a form of R. præcox, and undoubtedly it is very near that plant, but in "Hortus Veitchii" it is said to be a hybrid between R. præcox and R. dahauricum, the former itself being the offspring of R. dahuricum and R. ciliatum. R. Early Gem is a dwarf compact plant with small dark green leaves, and the flowers are a pretty shade of pinkish lilac. The flowers are produced in abundance during the latter part of January and early February, and at the time of writing (February 7) many plants are in full bloom. Here, at Castleford, Chepstow, it occupies two large beds, being associated with Erica carnea, the twain making a very pretty and pleasing combination. The soil is chiefly made up of peat, and Liliums of the Henryi type afford a display during the summer months. Given a favourable season this charming Rhododendron is a lovely sight, but we are bound to admit that it is frequently spoilt by inclement weather, and for this reason should not advise it being planted on a large scale. In more favoured localities it may be a success, and it should be stated that there is no question about the plant being hardy. It is an admirable subject for forcing, and may be had in bloom quite early with very little artificial heat. When sheltered in a cool greenhouse it is seen at its best. If grown as a pot plant it is essential to keep them inside for awhile till all danger of severe frosts is past, and they should be encouraged to make their season's growth, when they are eventually placed outside, where they form terminal buds ready for the next season's display. R. Early Gem needs little or no pruning.—T. W. B.

Beautiful Shrubs for Light Soils

Select the Right Plants and Save Time, Expense and Disappointment

IT frequently occurs in gardening that one is beset with the difficulty of finding plants suitable for, particularly arid positions. When one has no great experience in things horticultural it not infrequently happens that we select wrong plants and much waste of time and expense are entailed. Dry banks are a fruitful source of trouble, but before attempting to plant these it is always advisable to break them up deeply, at the same time working in some better soil or thoroughly decayed farm manure. For banks or sharply sloping ground of this nature, provided they are fully exposed, that is, free from overhead shade, few plants will clothe them more readily or more effectively than the species and varieties of Cistus and Helianthemum. They vary in height from a few inches up to as many feet; they smother themselves in flower during early summer, and being evergreen, are never uninteresting even in the dullest period of the year. Helianthemums of the vulgare type are perfectly hardy, and, being of dwarf growth, should be grouped well to the front. I suggest grouping several plants of a colour, for in my opinion, they are most effective when arranged in broken masses, as in this manner they present a pictorial effect of the highest order. The varieties of H. vulgare are most suitable and present a charming range of colours, including white, yellow, scarlet, pink, rose, terra-cotta and coppery orange, among the single varieties, and scarlet, yellow, white and terra-cotta among the double or semi-double forms.

The species of Helianthemum that grow taller than the H. vulgare forms include H. algarvense and H. formosum, both of which have yellow flowers distinctly marked with maroon blotch at the base of petals; also H. glaucum and H. formosum [illegible]

GENISTA VIRGATA OR MADEIRA BROOM.
An excellent shrub for light soil and sunny position.

OLD VARIETIES OF CHRYSANTHEMUMS

THE article by Mr. C. Blair in The Garden of January 22, page 45, is interesting to old "Mummers," as indicating that many of the old-established favourites are still in existence and not lost to cultivation. How often well-tried, useful decorative varieties are pushed on one side in the rush for new introductions, and one has to search cottage gardens and the countryside, where many an old favourite has been unearthed. I wonder if the "Rundle" family is still in commerce? The trio of that variety were long favourites of the general public even with those who did not as a rule favour the incurves. The well known initials, "C. H. P.," under the note, "Chrysanthemum Niveus," on page 79 gave me a thrill of pleasure. It is some years since we mutually admired this and other American varieties as they were sent over; and it is still one of the best late-keeping short petalled white decorative varieties we have.—C. Orchard, *Bembridge, Isle of Wight.*

yellow flowers; H. rosmarinifolium has narrow leaves and is crowded in summer with small white flowers. Helianthemums (Sun Roses) should not be placed in draughty or wind-swept positions as they are not quite so hardy as the garden forms of H. vulgare.

Among Cistus (Rock Roses) the hardiest is C. laurifolius, a species with stout evergreen leaves and white flowers, attaining a height of 6 feet to 8 feet; C. crispus, C. purpureus and C. villosus have flowers of a deep rose shade, borne in great profusion on rounded bushes some 2 feet to 4 feet high; C. florentinus and C. salvifolius are of similar growth to the last named, but the flowers are white; while in C. cyprius and C. lusitanicus the habit is still dwarf but the white flowers become strikingly attractive on account of the maroon marking at the base of the petals; C. ladaniferus has similar flowers, grows taller and is usually favoured as a shrub for walls. It is difficult to assess the hardiness of some species of Cistus, as some winters the mortality may be negligible, while an exceptionally severe winter may cause great loss; it is important to employ the hardiest as a screen to the tender sorts, so that the full blast of cutting, icy winds is broken up, for it is these rather than actual cold that plays havoc among the ranks of Rock Roses.

For similar positions to the genera already named and unquestionably hardy are the following species and hybrids of Cytisus and Genista; species like C. albus, C. præcox, scoparius Andréanus and the hybrid Dallimorei are subjects to conjure with in garden planning; they are immensely effective on the higher positions or undulating ground, but their great beauty and wondrous wealth of blossoms are most effectively displayed when clothing rocky promontories beside water.

Cytisus albus durus, C. Beanii, C. kewensis and C. schipkænsis are dwarf kinds that show to best advantage on banks or rock gardens. Genista is not nearly so rich in good things as the last named genus; G. æthnensis and G. virgata are tall, twiggy plants, having yellow flowers; G. hispanica forms dense balls of needle-like leafage that become a ramp of gold in early summer; G. tinctoria fl.-pl. has double yellow flowers and is valuable on account of flowering in late summer. Among other genera yielding members suitable for arid positions are Spartium junceum, with large yellow Pea flowers on rush-like stems in late summer; Tamarix hispida æstivalis, with handsome rose-pink flowers in feathery plumes; Hippophæ rhamnoides, the Sea Blackthorn, that stands full exposure, and if one male is planted to each half-dozen females the crop of high-coloured fruit will be readily assured. There is also the double form of Ulex europæus, a hardy and delightful shrub for large effects in the foreground of woodlands or beside water.

T. SMITH.

Coombe Court Gardens.

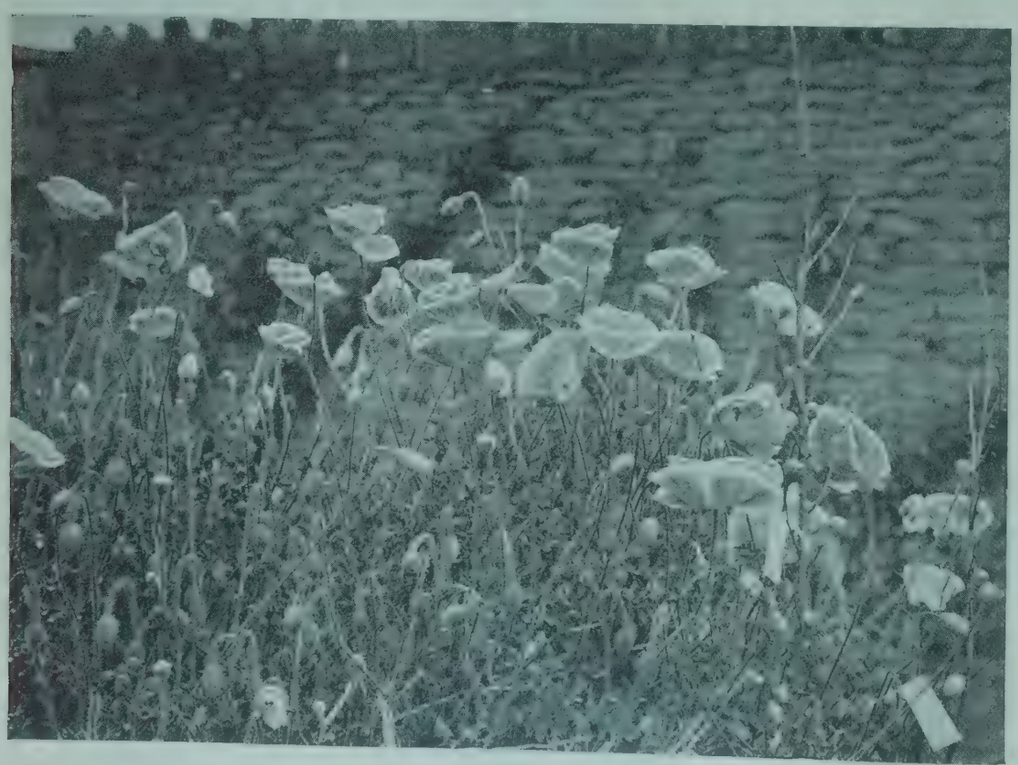
A LAMP-POST CLOTHED WITH "MORNING GLORY."

ANNUAL SCREEN PLANTS

Use Quick Growing Plants to Hide Unsightly Places

IT is not always practical or necessary to provide a permanent hedge or fence to shut out some undesirable portion of the garden or grounds, for it may be that it is only for a part of the season that a temporary screen is required. For this purpose there are several plants to be recommended, and in addition to their usefulness we get a glorious display of flowers. Quite one of the best subjects for such work is the Sweet Pea, which makes a most effective floral screen, especially when trained out evenly on a wire fence. Another valuable plant for such work is the climbing Nasturtium, which may be allowed to ramble over a wire fence.

The Nasturtium is particularly useful if the ground is too poor for Sweet Peas to make a show.



SHIRLEY POPPIES MAKE EXCELLENT SUMMER HEDGES.

One of the prettiest hedges used as a screen I ever saw was at an old farm house in Herefordshire, and consisted of a good strain of Shirley Poppies. They had made enormous growth and were nearly 5 feet in height, while there were literally thousands of flowers which were a revelation to me as to what can be done with Shirleys. For a dwarf hedge a good strain of the Pink and White Malope will do well and is most effective. There was an excellent hedge of Pink Malopes at Ampthill Park in 1918.

The annual Hop (Humulus), too, is most useful as a quick-growing plant to cover poles or fences and, where it is not essential to provide a hedge of flowers, can be thoroughly recommended. Eccremocarpus scaber, with its neat foliage and pretty orange flowers, can also be used with good effect as a covering for trellis work. For a sunny spot Cobæa scandens could be used, and if the seed is put in early an abundance of flowers will be given the same season. This is really a handsome climber, and a very pretty effect can be made by growing this in conjunction with Tropæolum canariense or one of the Lobbianum varieties of Nasturtiums.

Perhaps not quite so hardy as the previously mentioned plants, but certainly one of our most charming trellis and wall creepers for a sunny spot is the Convolvulus. Messrs. Suttons now offer these in a good assortment of colours, and it is quite safe to sow seeds outside early in May for a late summer and early autumn display. The Ipomœa cœrulea known as Heavenly Blue

is one of the finest blue flowers we have, and is very effective when intertwined with some of the Clematis, more especially the wine shades.

As a screen in or near vegetable quarters the Runner Bean is easily a good first as being not only ornamental but productive as well. Quite one of the most novel plants to be grown on a trellis or against a wood fence is a good mixed collection of Gourds. The enormous range of shapes and sizes and the plants' different characteristics make them most interesting. The last plant to be mentioned is the Jerusalem Artichoke, which is perhaps hardly suitable to go with the above list, but is nevertheless an admirable plant to form a hedge round an unsightly spot during the summer and autumn months. It has also the added attraction of yielding a good supply of food for the winter months. H. TURNER.

Albury Park Gardens, Guildford.

GOLD LACED POLYANTHUSES

An Agreeable Surprise Awaits Those Who Grow These Old Florists' Flowers

THE old folks who read this journal must often regret the absence of the choice old varieties of the gold laced Polyanthus, which used to add refinement and grace to their gardens. The same old people will often assert that the lost favourites had a charm all their own. The tracery of nature seemed to reach perfection in these old-fashioned flowers with their golden lines, curves and centres, contrasted with a crimson or a black ground.

In the Midlands and South to-day scarcely a plant of quality is to be found. It is only in the North that the flower can still be seen each spring, and then only in a few gardens.

The members of the National Auricula Society, Northern Section, always stage a number of plants at their annual Show, usually held at Manchester, and a few of the members of this Society comprise that small but patient band of enthusiasts who have refused to allow the plant to die out entirely as an exhibition flower. This same small band has been raising seedlings for many years, and the work continues. The results can now be stated to be excellent and many seedlings of merit will soon be available.

A novel method of cultivation seems to be on the point of establishing this old plant on a very firm basis, for, by its means, the annual increase by division can be multiplied many times. It has been found that the Polyanthus succeeds best when grown in drills about 3 inches deep and running east and west. Simple though this is none of the experienced exhibitors in the North seem to have tried the method before.

[An article on sowing the seeds will appear in a later issue, just previous to sowing time.—ED.]

Seedling plants are planted in drills as soon as three tiny leaves have formed, and it has been found that some of the most vigorous yearlings can be divided into nearly twenty divisions, all with roots. All these divisions establish themselves immediately when replanted in new drills, making fine plants before the winter.

Southern growers should make just one more effort with choice varieties, because, with drills a little deeper than those just mentioned, the plants should succeed even in the drier climate of the South.

The honorary secretary of the National Auricula Society, Northern Section, will inform enquirers where the best varieties are grown, or, better still, for the small sum of one shilling he will supply, post free, a copy of the Society's report on the last Show, including the names and addresses of all northern growers of gold laced Polyanthuses, show Auriculas and alpine Auriculas. Letters should be sent to Mr. John Tonge, 22, Booth Street, Manchester.

Any reader knowing of the existence of genuine old varieties of the Polyanthus would render the members of the Society a great service by informing Mr. Tonge where the plants can be seen. The following ancient sorts are still to be found in the Manchester district: Sir Sydney Smith, George IV, Nicholson's King, Exile. The lost varieties are, to name a few: Kingfisher, Lord Lincoln, Lancer, Beauty of England, Sunrise, Pearson's Alexander, Princess Royal, Prince of Orange, Cheshire Favourite.

Pin-eyed flowers have always been abhorred by exhibitors and they may not be exhibited even to-day. It was a mistake, however, to consign all such to the rubbish heap. For seeding they seem to be admirably adapted, in fact, many of the new varieties now coming forward had pin-eyed mothers. Had these despised forms been continuously preserved along with the more exact thrum-eyed flowers, growers would always have had an abundance of seed and probably the stocks of choice plants would have been now very much larger. The writer wonders if those who cultivate ordinary garden Polyanthuses, as well as single and double Primroses, will take the hint and plant in drills as suggested, at least as far as nursery stock is concerned, for, if they do, an agreeable surprise awaits them; success in the highest degree.

Stockport. G. D. A. HALL.

A Beautiful Dwarf Perennial

(ASTER SUB-CŒRULEA).

THIS is a floral gem that may easily be raised from seed. Few people could fail to admire the lovely lilac-blue Marguerite-like flowers produced in great abundance on wirey stems some 15 inches to 18 inches long. Although not quite perennial on all soils, still it is so beautiful that no one would grudge to treat it as a biennial. The best way in which to raise it is by sowing in pans, early in March, and allowing it a little warmth at first. After it recovers from the pricking-off process, remove to a cold frame, harden off when large enough, and plant out in fairly good soil. It provides most acceptable blooms for room decoration. C. BLAIR.

Preston House Gardens, Linlithgow.

The Mexican Orange Flower

(CHOISYA TERNATA).

THE early season has been favourable to the full development of the bloom of the Mexican Orange-flower, for, whereas it often has the appearance of being slightly unfinished or not quite fully expanded, this year the bloom has been perfect and has shown its full beauty. It rejoices in a warm, light soil, and, though it will stand unhurt in the open anywhere south of London, it is all the better for the comfort of a warm wall at its back. The flowers have a sweet scent, something like that of Whitethorn, quite different from the strong, Rue-like smell of the leaves. G. J.

CHOISYA AT A GARDEN GATEWAY.

SAXIFRAGES THAT FLOWER EARLY

How to Improve their Flowering

ONE OF THE BEST WHITE-FLOWERED SAXIFRAGES, S. BURSICULATA.
Free flowering and easy to grow.

SAXIFRAGA HAAGEI. *Only the common Stonecrop is so freely shrouded with flowers in its day.*

IF January in its day affords a glimpse of the earliest treasures of this race, it but follows that the days immediately succeeding must prove more prodigal of flower, richer far in variety, more fascinating and satisfying as a whole. Because of a floral procession unequalled by any other group of alpine plants that much is inevitable. It at once places the genus head and shoulders above all others; assists appreciably to ornament our rock gardens, while providing a decent quota for the alpine house for more intimate acquaintance and leisurely enjoyment. These are matters of interest and importance to every cultivator. Quite one of the prettiest at the moment is the hybrid,

S. Kellereri, raised from S. Frederici-Augusti and another. In flower at Christmas or directly after, and good as mid-February approaches, its larger rosettes often yield flowers in April or May, when, in fuller colour, they are of greater ornament than at first. Its flowers are bell-shaped, erect, four or so in a spray and pink tinted. The peduncles (stems) are 4 inches high. For sheer beauty and distinction I place it among the indispensables. As a grower it is particularly amiable and free. Well grown, the largest rosettes may reach 2 inches in diameter. Quite happy in gritty loam, with perfect drainage. Another hybrid of exceptional merit is

S. bursiculata.—This originated from the crossing of S. Burseriana major and S. apiculata, and the writer being instrumental in raising it, a personal interest attaches to it in consequence. It is probably the whitest flowered Saxifrage (species or hybrid) known to cultivation. The stems are sturdy and strong, the erect flowers several in a truss. In leaf growth, habit and vigour there is a strong approximation to apiculata, the grey or hoary touch of its needle-pointed leaves a possible inheritance from the other parent. The distribution of parental influence in the hybrid is most interesting, but as these notes are intended to be helpful to the "man in the street" that cannot be touched upon now. The plant, however, is good and distinct, while free, easy and amiable. It gained an award of merit several years ago, though it is not, I believe, in general cultivation as yet. Another hybrid of garden importance is

S. Haagei, and which, as a soil carpeter, is equalled by few and surpassed by none. No hybrid or species approaches it in the rich golden of its flowers, the sturdiness of its peduncles or absolute endurance. It is at once easy, accommodating and dependable, though capable of its finest effects when in sward-like patches it is dowered with golden tresses. Only the common Stonecrop (Sedum acre) of the plants I recall at the moment is so prodigally shrouded with flowers in its day. The flowers of the Saxifrage are, however, of an intenser yellow, golden in fact, and give of their richness in March, those of the Stonecrop appearing weeks later. Because of habit, the lower levels of rock-work suit it best. In other words, it is not a plant for the ledges or drier positions. By resorting to cutting propagation and arranging the plantlets, when established, an inch or two asunder, yard wide patches may soon be formed. It is a means to an end, no method of cultivation affording so rich a harvest of bloom, a fact which all should know, since it affects the very cream of the race. Quite good, too, among yellow flowered sorts is the

S. Elizabethæ set, the term being employed advisedly because of the variety existing. There are probably not less than four varieties approximating to each other in habit and form of flower, though differing slightly in colour and much more in their season of blossoming. It is as though several seedling variations of the cross (Burseriana × sancta) were distributed under the one name. S. Godseffi (L. S. Godseff) and Mrs. Leng are others virtually in the same category and not all of them are necessary in any collection. Influenced largely by the S. sancta blood in their veins, all are of easy cultivation and free. Their true place is in the lower stretches of the rock garden, where the ampler pockets or compartments will afford them their chance. Since it has been mentioned more than once when referring to other sorts, it is but right that the Macedonian

S. sancta should be considered briefly apart. It is a mat-forming kind, flat as the proverbial pancake. The point is made concerning it advisedly, since both S. Pseudo-sancta and S. juniperifolia are confused with it occasionally. These twain are mound forming sorts and, distinct both of leaf and flower, may be distinguished at almost any time. The true plant, at flowering time, is strewn with sturdy 2 inches high sprays of rich yellow flowers, the petals very minute, and the anthers of the same colour, as largely responsible almost for the display as the petals. The species loves the cool places of the rock garden and is quite hardy in loamy soil with a modicum of grit. Free in growth, it has a vigour and constitution of its own.

S. Salomoni, a grey or glaucous-leaved carpeter, descended from Burseriana and Rocheliana, minus the free flowering attributes of either parent. In fine it is really shy flowering. This notwithstanding, it is so free in growth, good in leaf colour and so amiable withal that it is well worth while The nearly two years old examples from cuttings flower most freely, those raised from division much less so. Quite happy in gritty loam.

S. kestonensis.—This is among early-flowering sorts and ranks high as a white, in so far, at least, as purity is concerned. It is supposed to be a seedling of S. Burseriana, though there is little evidence of any such influence. The plant is hardy and reliable and of easy cultivation.

S. oppositifolia, vars.—These form delightful pictures in March when the creeping shoots are well nigh hidden with erect stemless flowers. In cultivation they require some care and my greater success with them has been in peaty or lime-free soils and annual or biennial division. They inhabit Arctic or northern regions, amid rocks and debris and glacier moraines. A cool rooting medium and poor soil suits them well, and they delight in full sun. Their inclination to flower at the extremities of the plant's growth affords a useful cultural object lesson, hence by mulching, new growth should be encouraged, where propagation is not possible or convenient. Growing them in pots

and dividing them each year after flowering it was instructive to see how much better flowered were the growths that got beyond the pots into the sand of the plunging bed than the rest. There are several varieties; the type and its white form are here illustrated. Splendens, pyrenaica major and p. maxima and latina (rose pink) are coloured forms. Most brilliant of them all, however, is the vivid crimson variety W. A. Clark, though Wetterhorn, a richly coloured sort, has claims to attention too. E. H. Jenkins.

A NEW SAXIFRAGE

A Chance Cross and a Promising Seedling

TWO years ago I made a number of Saxifraga crosses, chiefly from the pollen of S. aizoides aurantiaca, and what I thought the most unlikely cross of all was the only one of the series that came off. This was S. cæsia ×S. aizoides aurantiaca, and it is just coming into flower now. It is clearly intermediate between its parents and is a most charming little plant. The foliage is nearest to S. cæsia, rosetted and silvery, but very much freer and looser, larger and more vigorous, than its prim little mother. The flowers come up rather in the arched spike of S. aizoides, eight and ten to a spike, but are broader petalled than that rather starry species. In colour they are, I think, unique in the family. A beautiful soft buff orange, with deeper coloured anthers, and still richer, brighter orange centre. The centres of the flowers have the conspicuous glossy, waxy texture of S. aizoides. Looking at it for the first time I was puzzled to define what the colour of the flowers was, but the few folk who have seen it agree that it is exactly the colour of a William Allan Richardson Rose. This particular tone of soft buff orange is very distinctive, and comparatively rare among flowers, and, as I say, as far as I know it is unique among Saxifrages. I could wish that the petals were a trifle fuller and rounder than they are. They are not as full as in the best forms of S. cæsia, but a good deal better than in S. aizoides. However, only one plant is so far in flower, and as there are four or five seedlings, it is possible that an even better form may yet appear. Failing that, the plant may quite likely seed and throw some improved breaks in the second generation. Even as it is now, with its first single blossom open, its beauty, curious colouring and vigorous silver foliage, convince me that it is a plant which will appeal to lovers of choice alpines. As yet it is without a name, but I feel very much inclined to christen it Saxifraga William Allan Richardson after the splendid Rose which in colour it resembles so closely. Of its cultural likes and dislikes I can say but little as yet. My best and biggest plant is flourishing in a pan of loam, leaf mould and old mortar rubble; a good deal of the latter. Its prosperous ways seem to indicate that it should be ready for distribution next year and then we may hope to learn from the experience of the many what it is really going to like best in the matter of soil and aspect.

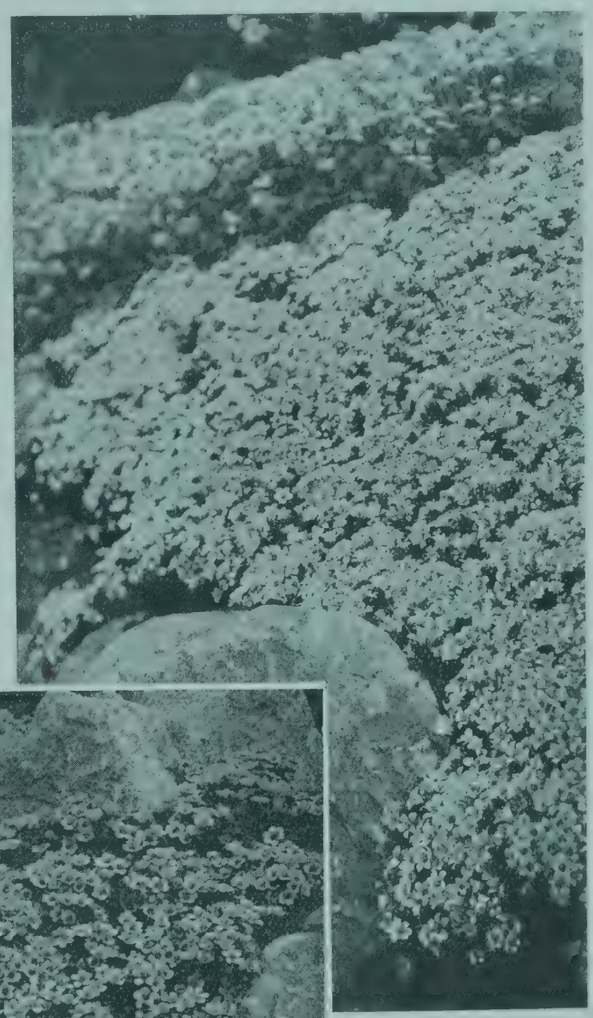
Stevenage. Clarence Elliott

AN AMATEUR'S ALPINE HOUSE

Reasons for Growing Alpines Under Glass. Some of the Choicest Varieties for the Purpose

PURISTS of the rock garden school maintain a haughty attitude of *non possumus* against the cold house destined for the cultivation of alpines. While admitting the necessity of protecting certain difficult plants with sheets of glass purporting to be snow and of frames for the rearing of the younger generation, they hold the rock garden to be the only fit place for growing the friendly children of the mountains.

I beg to disagree with these gentlemen for a good many reasons although I will concede that the individual grown and shown in the glass-house often loses some of the characteristics of its near relative in the open. While I prefer growing as many plants as possible in the rock garden, I admit dainty objects to the house, plants which might be spoiled by inclement weather of the early months and also those which are difficult to manage. Here I think of many Primulas, Androsaces of the Aretia type and others.



My cold house is a lean-to of the ordinary villa type and not the ideal place to grow alpines in, but wonders can be worked with goodwill and a little adaptability. Needless to say that the ventilation must be perfect. Strict cleanliness and tidiness is advisable, as well for the welfare of the plants as for the consummation of the object. The clean pots should stand on beds of cinders or pebbles, but for economical reasons I found slabs of slate quite serviceable. I have from the beginning introduced the moraine or screes principle into the house, and grow Saxifrages, Androsaces and various others in a mixture which contains in many cases over 50 per cent. chips. Firm potting under these circumstances is a necessity, but I have had a very fair amount of success. Watering in winter must be done judiciously and in many cases dispensed with entirely for months.

The denizens of the house will vary according to individual tastes. Some prefer showy plants, while I have a liking for interesting botanical specimens, which I love to grow from seed. It is a fascinating hobby, full of glory and disappointment and best accomplished in the house.

Of Saxifrages I have selected those flowers which would spoil in the rain, Burserianas of kinds, for instance. The Englerias are specially interesting, and I would like to say here a warm word for S. Kellereri, which is always one of the first to open its pleasing pink flowers. One can as a rule rely on it in the first days of January (Christmas in 1920). If you take large cuttings of S. Boydii you will find that the established plants will flower rather ampler than old stools. S. Faldonside is another glorious object, but somehow we are not on good terms, and the plant will not flower for me satisfactorily.

Unless you can give Primula Forrestii a vertical rock or some protection against superfluous moisture this species is best grown under glass, where the difficulties seem to disappear. Mr Hanbury's garden in East Grinstead shows admirably what can be done with P. Forrestii in perpendicular rocks. The secret of P. Winteri is solved by frequent shifts into larger pots and by watering from underneath

Many people find the Aretia type of Androsace troublesome to grow. I shall advise people to try to cultivate these fascinating plants in pots

SAXIFRAGA OPPOSITIFOLIA ALMOST HIDDEN WITH FLOWERS. THE WHITE FORM IS SEEN ABOVE

n the screes principle in an even mixture of loam nd sand with half the quantity again of chips ccording to their liking. Do not water from ne top, but immerse the pans in a pail of water nd remove before the surface becomes moist. n this way I have managed to grow and flower ndividual plants for five seasons, which seems to e their alloted span of life in our gardens. The wiss botanist Dr. C. Schroeter tells of and illus- rates examples of A. helvetica found in the Alps, ne age of which he states to be up to sixty years. So far I have no experience in growing terrestrial rchids in the cold house, and I believe a good any gardeners would welcome a contribution of n amateur grower to this valued paper on that ubject. The plants amenable to cold house ultivation are very numerous and diversified, nd many appetites can be catered for. I hope o grow this year the beautiful Orobanche speciosa n a pan, as Broad Beans, the host, are a little out f place in a rock garden. EAST MOLESEY.

A Subject for a Lawn Bed

(CYTISUS NIGRICANS).

FLOWERING during the summer and autumn, this ellow-flowered Broom is a native of Central and outh-Eastern Europe. Though said to have been first introduced in 1730, it is by no means as freely cultivated as its value deserves. Perhaps this is because the young plants do not transplant readily, though several nurserymen have overcome this difficulty by distributing their stock in pots. As the illustration indicates, the yellow, pea-like blossoms are borne on slender terminal racemes. Being the current season's growth, fairly hard pruning is desirable in March each year to encourage the free development of sturdy shoots. Growing from 3 feet to 5 feet or 6 feet in height, according to the amount of pruning practised, Cytisus nigricans is a useful subject for a lawn bed, and attractive in the shrubbery borders.

THE YELLOW PEA-SHAPED FLOWERS OF CYTISUS NIGRICANS.

EXHIBITION VEGETABLES

Should Chefs or Growers Judge Garden Produce at Shows?

SO the "good old annual" has cropped up again. It really is marvellous how it reappears, and how many otherwise cute folk seem to imagine that it is something new, but there: is anything controversial really new under the sun? I observe in THE GARDEN of February 19, that an old friend of mine, and one for whom I have the greatest admiration, has taken part in the game that is oft-times known as "Twisting the lion's tail," and, having placed me in the position of playing "lion," well, Mr. F. Herbert Chapman must not mind me uttering a modest roar. First, let me remark that I look on Mr. Chapman as one of our keenest and cleverest horticulturists, and, secondly, I cannot help wondering at "F. H. C." ranging himself on the side of the "little vegetable" enthusiasts, for I have a recollection of him exhibiting at one time a wonderously large-sized Capsicum, quite the largest, in fact, that I recollect ever seeing, and of this I believe he was very proud. On this detail I was at variance with him, for be it confessed, this is a vegetable which I prefer to grow on the small side, both for appearance as well as culinary use. Still, perhaps he has now seen the error of his ways, and has repented, hence his appearance in the garb of penitent alongside that famous lady contributor to THE GARDEN who has also "tweaked the tail of the lion" on the same subject, or perchance it is a case of "Saul among the prophets." Yes! My withers are still unwrung, Mr. Chapman.

Now, unless I am much mistaken, this controversy is going to assume larger proportions this season than heretofore, and will prove a really important and not uninteresting matter, and if kind "Mr. Editor" will permit me the room, I will enlarge on the subject somewhat.

It would appear from the results of some of the "Pens" of the horticultural press that "Beckett" and "Huge Exhibition Vegetables" were synonymous terms, but let me assure readers that such is not the case. Those who have carefully read, not only my notes in the Press, but also the book on vegetables which I had the pleasure of publishing a few years back, will bear out the following statement. Frequent emphasis is made when dealing with "Exhibition Vegetables," that medium sized, well grown, good shaped specimens should generally be selected for the purpose of exhibiting and I think I can claim consistence on this point when staging vegetable exhibits at the various shows. So far as the book is concerned, for instance, I write of exhibition Beet, "The finest roots are those of medium size"; of Cabbages, "of medium dimensions," and further point out the fact that folk make a great mistake in believing that the largest Cabbages will win the prizes; for Carrots I advise "Of moderate size," and so on through the volume, but space does not here permit of further quotation. I have quoted sufficient, however, I think, to justify the claim that I am not a "Big Gooseberry" merchant!

Neither am I a crank on the subject, for I am convinced that there is a proper use, not only for the medium-sized vegetables, but also for the small and the monster. The old "bone of contention" was, I believe, quite aged, even in the days when I recollect first visiting a local show, and I well recall the feeling I then had of how poor were the vegetables shown, and how poorly staged, and I determined there and then to try to play my little part in improving matters. I have lived long enough to see those hopes materialise; long enough to see good vegetables properly grown, prepared and staged; long enough in fact to see the vegetable entries at exhibitions occupying a premier position and drawing as much attention and admiration as the floral and other exhibits. And now it looks as if some wise (*sic*) folk would wish us to retrogress, after such wonderful progress has been attained. What, I would ask, has caused such wonderful improvement in the quality of modern vegetables, until most of the older sorts of a decade or two ago are practically extinct? Is it only felicitous chance, or is it the direct result of aiming for vegetables of exhibition standard? Having asked those two questions I am confident the jury of public opinion will give a verdict to the effect that exhibition work is properly to be credited with the improvements effected.

CHEFS *v.* GARDENERS.

It is with keen regret and great misgiving that I read the letter issued, with the much respected signatures of the President and Secretary of the Royal Horticultural Society attached, to wit, those of Lord Lambourne and Mr. W. R. Dykes. These two gentlemen have gained the respect and admiration of the horticultural world, and it pains me to see them connected with the movement summed up under the words, "decided to ask the assistance *of eminent chefs as judges in making its awards*." The italics are mine, and I look on this as one of the most extraordinary and retrogressive movements it has ever been the misfortune of the Royal Horticultural Society to make. For this Society, above all, to go outside the profession for assistance in making its awards is, to my mind, inconceivable. I do not wish to act as a croaking prophet of evil, but I cannot help feeling that this decision will split asunder the horticultural world, do great harm and set back the clock many years. With all due respect to the chefs, I would not purpose having an exhibit that I set up judged by them, and would, in fact, withdraw where I found such to be the case. Eminent men they may be in their own profession, artists at their own craft, but why judges of the gardeners'? I would as soon have a gardener to pronounce the verdict on the gastronomical creations of the chefs; for, on the line of reasoning set up, surely a gardener should be as capable of judging cooking as a chef, or, in fact, any other unqualified person, is of judging the results of a gardener's work!

No! The right men to judge vegetable exhibits are the men who are efficiently capable of producing first-class vegetables—good, common

sense gardeners, who have by so doing proved their right to pronounce such a verdict, and who, therefore, do not require the aid of a member of another profession. I wonder what farmers would say if chefs were set up to judge the fat beasts at a cattle show; I do not think they would be satisfied. And to recall two other big exhibitions held in London each year, the Bakery and Confectionery Exhibition and the Brewers' Exhibition, would the organisers thereof invite chefs, gardeners or farmers to adjudicate on the merits of their particular exhibits? I cannot conceive such a happening for one moment. Why, then, should the Royal Horticultural Society take such a step and set up such a precedent?

BIG *v.* SMALL VEGETABLES.

What are the views of chefs on this point? I do not know that they object to large, well-grown stems of Asparagus, or large heads of Seakale; on the contrary, the larger these are the more generally they are appreciated, and the same applies to many other vegetables. Take, for example, the garden Pea. Generally speaking, the larger-podded and seeded varieties are far superior, both in quality and flavour; and yet the Royal Horticultural Society's letter, above referred to, has the phrase, "Peas will be commended not so much for the large size and plump appearance of the pods, as for the tenderness and number of the seeds contained therein." In other words, one can imagine this to mean that good-sized, good texture, good-flavoured Peas will be at a discount compared with half-grown pods of tiny Peas. We shall next revert to the old-fashioned field Pea at this rate. This may sound rather a travesty of facts, but only by going from the sublime to the ridiculous can the faultiness of the suggestion be emphasised. Again, take Scarlet Runner Beans; the long, fleshy pods of the newer and improved varieties, and incidentally larger pods, are, in my opinion, in every way superior to the old-fashioned sorts.

Because vegetables may appear a trifle large on the show table—and, after all, they are always the pick of the basket—it does not necessarily mean they are not fit for the dinner table.

Another point. Do not the large, the small and the medium vegetables generally have their own particular uses. Take, for example, the Onion. What is more delicious than a *large* Onion well braised, or properly boiled, but could the medium or small specimen be so effective? The small sorts, however, can always be used for seasoning in culinary work—if very small how useful for pickling!—while there are many uses for the medium sizes. Why was such a large trade done, and still maintained, in imported Onions? Most people will agree with me when I say that size was one of the primary factors, and some of us, at any rate, have been, and still are, producing the large size of Onion with which the foreigner has previously glutted our markets.

If smallness or medium growth is the ideal, how about the Turnip? Ask a chef, or indeed even the most ignorant of the community, how nasty an undersized Turnip can prove—woody in texture and strong in flavour, and no comparison to the medium to large quickly and well-grown root. Why, some of the best Turnips I have ever eaten have been grown to the size of a cricket ball under field culture. Again, Marrows, instanced in the Royal Horticultural Society's letter! Lucky persons, as a rule, who can afford Marrows of sufficient smallness to boil whole; and that is not everyone's taste even then, for many folk prefer the large Marrows, when they reach the mellow stage of ripeness, and as a winter vegetable a fully-ripened Marrow is a delicious one despite it size.

No! my merry masters, let well alone! No phase of horticulture has improved to the same extent, in my opinion, as that relating to vegetables during the past fifty years. Do not cast us back decades by rendering it practically obligatory to place on the show staging what will probably prove to be undersized, undergrown, inferior specimens. Do not drive the really good growers away by submitting their efforts to the wisdom of chefs! One knows that "the proof of the pudding is in the eating," but a good pudding is an accomplished fact before it is cooked, even though the cooking has much to do with it, for poor cooking may easily mar its excellence, and the same test can be applied to a good vegetable. Do not discourage exhibiting by these methods, for a man who can grow good exhibition vegetables can excel with the culinary ones without a doubt, for, after all, the former are generally only the selection from the latter.

E. Beckett.

Snowdrops in a Shropshire Woodland

Nothing is prettier among the flowers of early spring than clumps of Snowdrops and Daffodils dotted here and there in the grass or haphazard in shrubbery and parkland, orchard or hedgerow, where they soon become established and spread, coming up year after year in greater masses of beauty and dainty blossoms in the early days of spring. They require very little attention, as when once planted and established they look after themselves and increase in beauty year by year. For this purpose the common single Snowdrop and Daffodil are the most dainty in effect and spread the quickest. Wm. M. Dobson

WHERE SNOWDROPS THRIVE.

New and Rare Plants

FIRST-CLASS CERTIFICATE.

Cymbidium Landrail (Dryad × Lowianum).—An exquisite hybrid of almost alabaster whiteness through which a flesh tint shows to marked advantage. Of such colours are the sepals and petals, the lip, which is large and pronounced, being heavily chequered with velvet crimson at the margin. From Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt (gardener Mr. Alexander).

Dendrobium Model The Dell Variety (D. Cybell × D. Lobell Berkeley's Variety).—Perhaps the handsomest hybrid that has yet seen the light. The pseudo bulbs are more than 2 feet in length and richly endowed with flowers. These are of the largest size, the petals heavily tipped wine red having white pink-suffused bases. The lip, white tipped, is marked with rosy red and has a huge maroon blotch at the base. Shown by Baron Bruno Schröder, The Dell, Englefield Green (gardener, Mr. J. E. Shill).

AWARDS OF MERIT.]

Dendrobium Butterfly Low's Variety (D. Ainsworthi × D. Chessingtonense).—This charming hybrid is of deep chrome yellow throughout save for the blood crimson base to the lip, which renders it so conspicuous among its fellows. The fringed petals are also a feature. From Messrs. Stuart Low and Co., Crowborough.

Primula sinensis Intensity.—A great gain in the sinensis section of the Primulas. A variety of the giant class, the handsome flower trusses of intense blood crimson tower clear above their leafy foil, the usual golden centre replaced by one of ferruginous brown, bordered with pale mauve, responsible for a novel and striking effect. A wondrous piece of colouring *per se* the plants were in the nature of natural bouquets. The award was unanimous. From Messrs. Sutton and Sons, Royal Seed Establishment, Reading.

Primula malacoides Pink Beauty.—A particularly well marked variety of the useful species named. The individual flowers are of exceptional size, coloured a rosy mauve, and are most effective. From Mr. Yandell, Maidenhead.

Viburnum fragrans.—Said to have endured 10° of frost with impunity and flowering at this season, this Chinese species should prove of inestimable value for winter flowering. The flowers, individually less large and chaste than those of V. Carlesii, are fragrant and produced in compact, roundish terminal clusters. They are white and flesh tinted. From E. A. Bowles, Esq., Myddelton House, Waltham Cross.

A CHOICE DENDROBIUM

HAVING lived in the *home* of Dendrobiums in the forests of Northern Siam, 200 to 500 miles south of the seat of the late Mr. Reginald Farrer's recent unfortunate expedition, the writer has no hesitation in stating that Baron Schröder's hybrid Dendrobium, Model The Dell variety, which so unanimously received a first-class certificate from the Royal Horticultural Society's Orchid Committee, is the choicest Dendrobium hybrid ever exhibited.

The numerous Dendrobium hybrids raised at home and abroad are remindful of the type, a white rabbit's tail tipped with red. Many such natural wild hybrids, some finer than those we have, are found in the Siamese forests, but that put up by Mr. J. E. Shill for Baron Schröder stands out *hors concours* above everything else. With a pseudo bulb 2¼ feet high, seven flower-stalks, each with twin blooms, all the flowers uniform and large, perfect in shape, substance and colouring, most exquisitely marked, rhodomine? carmine? what a colour! at any rate a form of blue red of several shades on a white ground, flushed in the right places with typical colour from its palest shade to the most intense vivid tint at the tips of the petals. The slight twist of the petal tips is of the deepest colouring, thus endowing this adornment with additional grace and charm. The labellum, with a conspicuously clear pale eye and deeply coloured surround, on white ground, edged paler tint of carmine rose, at the brim, was perfectly formed. C. A. JARDINE.

(Late Royal Siamese Forest Service).

VIBURNUM FRAGRANS. A HARDY WINTER-FLOWERING SHRUB.

Award of Merit.—From a drawing by Ernest Parker.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Planting of herbaceous subjects may still be carried out for several weeks if care is taken in lifting and dividing the roots. It is an advantage on light soils after this somewhat late planting to mulch with some well-decayed leaf-soil, or some short well-rotted manure may be advisable for the purpose for some of the grosser feeding plants. Upon the completion of planting the borders, Hollyhocks, Pentstemons, Violas and Stocks which have been wintered in frames can be taken in hand and grouped where required on the borders. If Sweet Williams and Canterbury Bells were not autumn planted they should be seen to at once.

Pampas Grass.—This grass, though often seen grown as single specimens, should really be boldly grouped to obtain the best results. Old plants may now be trimmed and cleaned and fresh plants put in. If possible, a few large clumps of Kniphofias should be planted in conjunction with the Pampas, for the two make an excellent show together in the autumn.

The Kitchen Garden.

Herbs.—These plants, among the most important, occupy only odd bits of borders, but they are really worth a piece of garden being devoted to them entirely. This can then be planned out as taste dictates, and a herb garden can be made most attractive and instructive. Quite one of the most pleasing herb gardens I have seen was where each important variety had a small bed to itself, and while some were edged with Box, others were treated with Thymes and Thrifts. In addition to the usual herbs, excellent use was made of Lavender plants and Rosemary, while a few plants, such as Bergamot (Monarda didyma), had been planted because of the sweetness of their foliage.

Potatoes growing in frames and showing signs of dryness should on a bright morning receive a thorough soaking with tepid water. A top-dressing of some old potting soil and some flaky leaf-soil with it will benefit the plants. On a warm border, and providing the soil is in good working order, the first planting may be made outside. If the soil be at all heavy, after opening the trench ready for the sets, put in a good dressing of flaky leaf-soil and plant the tubers in it.

Perpetual Spinach.—Encourage this excellent vegetable to make new growth by giving a dusting of soot on a dry day, hoeing in afterwards.

Seeds of Spinach, early Carrots and Turnips may be sown now on warm borders. A sowing of Parsley should be made, but this need not necessarily occupy such a favoured spot.

Plants Under Glass.

Winter Zonals.—Cuttings should be got in with as little delay as possible. Whether placed singly in small pots or several round the sides of a larger one, they should be made quite firm, and the pots afterwards placed on a shelf in gentle heat and free from excessive moisture. To obtain large plants for flowering next winter some of the old stools should be retained. Should none of them be required for growing on again they will flower splendidly outdoors during the summer months. Summer-flowering Pelargoniums should be kept growing in a light position with a little fire-heat, and aired freely when the conditions merit it. Assist the plants when well supplied with roots with weekly applications of manure water, and fumigate occasionally to keep green-fly in check, which is somewhat troublesome with these plants.

Gardenias.—Insert cuttings as they become available, using a light compost to which some peat has been added for the rooting medium.

and afterwards for the growing on of the plants. To obtain good bushes insert three cuttings in the same pot and grow on without any disturbance. Old plants, rested a while and cut back and grown on the second season, also give good returns.

The Conservatory.—An abundance of material is now available for the embellishment of this structure, and an added charm may frequently be given by carrying out different schemes of colour grouping. With the longer and brighter days root action is naturally more vigorous, and it is safe to use stimulants rather more frequently among such subjects as Cinerarias, Primulas, Cyclamen and Arums.

Fruit Under Glass.

Early Peaches.—Nothing is gained by being in too great a hurry tying down the young growths, but care should be taken to note that no growths which are required for another season get established the wrong side of the trellis. The removal of surplus growths should be carried out gradually to cause no check to the trees. The thinning of the fruits also should be very gradually carried out, and if any trouble has been experienced in any previous season during the stoning period the final thinning out may well be left until this period is safely over.

Figs.—Early trees in pots may be stopped at the fourth or fifth leaf, also those in borders, unless wood is required for extension. It may be necessary to give the pot plants a top-dressing to prevent exhaustion if carrying a heavy crop. Use good fibrous loam, and add to it a little old mortar rubble and a sprinkling of bone-meal.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brassicas.—Savoys, maincrop Cabbage, Cauliflowers, Broccoli and Kale should now be sown on a well prepared seed-bed for general planting, while at the same time a few more lines of Lettuce may be sown for succession. Use sifted soil to cover the seeds where the ground is heavy and protect from birds by netting the plot.

Broad Beans.—The main sowing of these may now be made, and although less fastidious as to soil than most things, yet ground that is well worked and enriched pays in the end. Early Mazagan and Windsor are most suitable for the early crop and Longpod for general use, while Bunyard's Exhibition and Leviathan should be grown where the larger types are desired.

Onions.—Where this crop does well when sown in the open, now is an opportune time to sow. The crop enjoys a deep and well worked soil, which, if dig some time ago, should now be broken down with a fork, at the same time giving a good dressing of soot. After thoroughly raking the surface, drills for the seed should be drawn a foot apart and an inch in depth. Sow the seed evenly and thinly, and if any burnt refuse is available scatter it over the surface before levelling the drills. For this outside sowing James's Long-Keeping, Brown Globe and Bedfordshire Champion are reliable sorts.

Onion Sets.—Where there is a difficulty in raising Onions from seed the above prove an excellent substitute, as they are most satisfactory for early use and generally yield a fine crop of bulbs. Plant any time during this month when the ground is in a favourable condition. The rows should be a foot apart, and the sets 5 inches apart in the rows.

Herbs.—A number of the perennial herbs are best lifted and replanted every three or four years, and now is quite a suitable period to have the work done. Mint in particular enjoys this attention as after a few years the growth becomes stunted and dies out in parts. If unable to carry out transplanting, a suitable top-dressing should at at once be given. Tarragon, Thyme and Marjoram also transplant well just now, while a fresh bed of Sage should be made up occasionally either from seed sown indoors now or from cuttings inserted in frames during the autumn.

Plants Under Glass.

Hybrid Calceolarias.—See that these are not allowed to become pot-bound before getting their final shift, as they are inclined to push out their flower-spikes prematurely if root action is checked. A suitable compost in which to repot is one part of good loam, half part of leaf-mould and a quarter of silver sand, with a dusting of an approved fertiliser. When potting, see that the soil is not pressed too firmly, otherwise the roots will not run so freely.

Dahlias.—Tubers should now be placed in heat. Arrange on the bed of a forcing pit, working some leaf-mould among the roots. Spray occasionally, when they will soon break into growth and so allow of cuttings being taken.

Chrysanthemums.—Where the cuttings of these have rooted freely they should now be potted up according to requirements. After root action commences again they may be moved into a cool frame; when hardy growth may be encouraged by admitting air freely during fine weather.

Sweet Peas.—Where the finer varieties are grown it is almost essential that they should be started in pots or narrow boxes and planted out. Seed should be sown at once, and is best germinated in a moderately warm house, transferring to a cool frame as soon as they show their second leaves. Grow them as sturdily as possible so that they suffer no check when planted out in their flowering quarters.

The Hardy Fruit Garden.

Planting.—If wet weather or other circumstances have hindered the planting of hardy fruit trees, this work should be carried out without further loss of time. Although it is not too late for this work, every day tells in favour of the bushes or trees which are planted early.

The Loganberry.—If Loganberries are grown they should now be thinned out and the strong fresh growths tied in. Where there is a desire to plant these it would be advisable for the grower to find a site for them in some of the outer portions of the garden where accommodation is not limited and where their rampant growth does not intrude readily on other crops.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

NARCISSI UNSATISFACTORY (Pandora).—The appearance of the buds leads us to suppose that the plants were brought into heat before the roots were well formed, or that the varieties are unsuitable for forcing.

HANGING PLANT FOR A JAR (Felsted).—The Creeping Jenny, Lysimachia Nummularia, would be a very suitable plant for an Ali Baba jar. It is easy to grow and produces its rich yellow blossoms freely in summer and autumn.

THE DESTRUCTION OF HELXINE, AND OTHER QUESTIONS (B. N., Tunbridge Wells).—We fear the use of a weedkiller would be fatal to the garden, but perhaps if our correspondent pours boiling water on the Helxine it may kill it, or at least reduce it, but that would be dangerous to other plants growing near by. Nothing but hand weeding seems possible. To remove Lichen from Azaleas they should have been sprayed with caustic soda (if, as we suppose, they are deciduous ones), but it is too late to do that now, as in all probability the buds are beginning to burst. Spraying now with Bordeaux mixture would assist in removing the Lichen and would be safe for the next week or two.

PLANTS FOR A NARROW HERBACEOUS BORDER (Madame).—As there are climbers already on the wall, it were better to confine the border planting to two lines of groups, the latter appearing informally. By planting three of each subject in the back line and five of each in the front line of groups effectiveness would soon be reached. The following are good subjects for the back line: Helenium July Sun, Phlox Mrs. E. H. Jenkins, Delphinium Rev. E. Lascelles, Aster cordifolius Photograph, Helenium autumnale rubrum, Helianthus Meteore, Delphinium Duke of Connaught, Aster Brightest and Best, Helianthus multiflorus maximus, Delphinium Lamartine, Helenium Riverton Gem, and Aster cordifolius Diana. Set the groups out to nearly 2½ feet across, allowing a like distance between each group. For the front line: Montbretia Hereward (eighteen corms will be needed for a group of this), Aster King George, Iris Mrs. Darwin, Pyrethrum Hamlet, Montbretia George Davison (eighteen corms will suffice), Phlox Elizabeth Campbell, Scabiosa caucasica Beauty of Exmouth, Pyrethrum Aphrodite, Iris Prosper Laugier, Aster Beauty of Ronsdorf, Heuchera Pink Pearl, Phlox Le Mahdi and Iris Knysna. Take these in the order named, and plant from the same end in each case. We take it the border has been well prepared. Jasminum officinale affine and Clematis Miss Bateman might be added to the wall.

ROSE GARDEN.

ROSES UNSATISFACTORY (A. G., Surrey).—Mid-March would be quite early enough to prune the Rose trees of Hybrid Perpetuals and on to mid-April of Hybrid Teas. It is little use spraying immediately after pruning but it would be advisable to spray with lead arsenate soon after growth begins.

PRUNING ROSES (Throwleigh).—If as we surmise the trees have been planted this season or last autumn, we should advise pruning all the varieties down to about three or four eyes from their base. Next year Red Letter Day and Mme. Abel Chatenay should not be pruned so severely. The best book on pruning Roses is published by the National Rose Society, but it is issued only to members. Our correspondent would do well to join the Society as the literature alone is well worth the 10s. 6d. subscription.

THE GREENHOUSE.

ASPIDISTRA FLOWERING (Keen Amateur).—It is quite natural for the Aspidistra to flower, though it cannot be described as a frequent occurrence. Assuming the plants are healthy and vigorous there is no need to remove the flowers.

CULTIVATION OF SOLDANELLAS (D. C. M., Radnorshire).—These plants not improbably miss both the mountain and the snow, and faced continually with the vicissitudes of lowland England are often unhappy in consequence. The cold greenhouse, provided the plants were set on a cool base and not on an airy trellis stage, might suit them well. A matter of importance is getting good growth into the plants in summer time. To secure this break up the plants freely from mid-March to April and replant firmly in very sandy peat and leaf-soil. This is vital; loose planting is fatal. We would not favour pan cultivation unless the receptacles were deep ones—6 inches or more—and copiously drained so that water might freely percolate away. Generally, however, they are happier with moraine treatment outdoors in the rock garden or elsewhere. Apparently our correspondent has been keeping some of the plants too dry. That is quite wrong. Dryness with these plants can most certainly be carried too far, and where leaf loss follows it has of a surety been overdone. Under cultivation they appreciate moisture, coolness and partial shade. Apart from the soil mixture above mentioned, and free breaking up, wedging the units tightly between lumps of sandstone all but buried from view would assist appreciably. Given these, a position in the rock garden should suit them best, and all else being in order, success should follow as a natural result.

TREES AND SHRUBS.

ARBUTUS ANDRACHNE (Felsted).—This tree ought to succeed in Essex; it requires similar soil to A. Unedo. A sheltered position should be provided.

AZALEAS ATTACKED (Pandora).—The caterpillars which were the cause of the curling of the leaves had disappeared, so cannot be identified, but it would be well to pick off and burn any such leaves as soon as they are discovered.

SUITABLE TREES TO FORM A HEDGE (R. A. H. W., Essex).—A very good informal hedge could be made to screen off the garden from the tennis court with Pyrus floribunda and P. f. atrosanguinea. Trees could be planted 8 feet apart and they would soon grow together. They could be grown without pruning if there is plenty of room available. Trees branched low on the stem should be procured. Trees may be obtained from either Mr. Anthony Waterer, Knap Hill, Surrey, or Mr. Notcutt, Woodbridge, Essex.

THE LOTUS, LOTOS OR LOTE TREE (G. C.).—This must not be confounded with the Lotus Lily or Sacred Bean, a totally distinct plant; it was the Zizyphus Lotus and one of the plants supposed to have yielded the seductive sweet fruits from which the ancient Lotophagi took their name. Nitraria tridentata, a shrubby plant of Zygophylleæ occurring in Northern Africa has, by some writers, been described as the true Lotus tree. Reference is made to this subject in "Plant Lore, Legends and Lyrics," by Richard Folkard, Junr., wherein many interesting matters of a similar nature are discussed.

FRUIT GARDEN.

TIPPING RASPBERRY CANES AT WINTER PRUNING (Throwleigh).—It is no new experience to find Raspberries bearing fruit on the tip end of the unripened canes when permitted to do so. The question arises whether this is not done at the expense of the weight of fruit lower down the cane. It certainly makes it more difficult to protect the fruit. We would advise our correspondent to try a few of the canes both ways and note result. The larger canes could be trained obliquely. Such canes as grown by our correspondent ought to give heavy crops. Perhaps too many canes are grown to each root stock. Four such heavy canes would be quite sufficient.

MISCELLANEOUS.

PIPING FOR BOILER (Anxious).—Of 2-inch piping twice the length, i.e., 200 feet, would be required, and of 3-inch approximately 150 feet, to equal the quantity of 4-inch piping given. This would render the area of radiating surface, upon which all calculations of heating are based, practically the same.

INSECTS FOR IDENTIFICATION (A. F., Salop).—The insects sent are Alder flies and their cocoons, and they are neither injurious nor useful. Some of them have been parasitised and the ichneumons are hatching with the rest of the flies.

DRESSING A LAWN (E. C.).—The lawn may be given a good dressing of farmyard manure after as much as possible of the moss has been raked out; then, in April, apply a light dressing of sulphate of ammonia mixed with sand in order that it may be distributed evenly. Basic slag is a slow-acting manure, and it is probable that little or no improvement would be seen for a year. The farmyard manure and sulphate of ammonia will have an immediate effect, however.

HEATING A SMALL GREENHOUSE (Novice).—We cannot recommend heating a greenhouse, even occasionally, by lighting a fire in a large flower-pot, as without means of getting rid of smoke and fumes, plant life would be seriously injured. Oil lamps and small stoves consuming anthracite cobbles are frequently resorted to for the purpose, though the abominations of the oil lamp are very considerable unless everything in connection is kept scrupulously clean.

"REPERTOIRE DE COULEURS"—POCKET EDITION (A. F. T., U.S.A.).—As there appears to be some little interest in the publication of this long-promised edition of the French Chrysanthemum Society's Colour Chart, which was delayed by the war, it may be useful to give the following information. In October, 1919, at a meeting of that Society in Paris the question was brought up and discussed and finally it was resolved that an attempt should be made to come to some arrangement with a publisher. Nothing appears to have been satisfactorily done and a year later the secretary was compelled to announce that neither in Paris nor in Lyons could negotiations be entered into with a publisher that would permit the Society to bring out this very useful and much-needed edition. It was reluctantly felt that the publication of what would be a most valuable working colour chart for gardeners and nurserymen, must be deferred until better times arrive when the cost would be justified.—C. H. P.

"The Orchid Review."—It is regretted that, owing to the serious illness of the Editor, Mr. R. A. Rolfe, publication of "The Orchid Review" will be suspended until further notice. The repayment of advance subscriptions will be effected as soon as possible.

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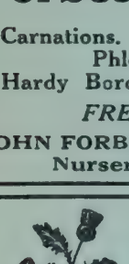

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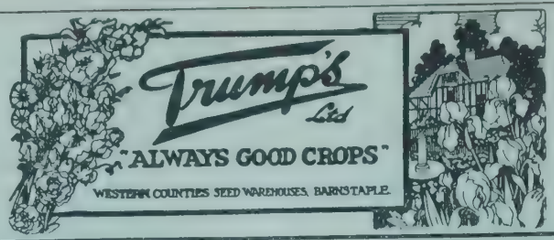

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FIG. 2. (Welted Pattern).

FIG. 2. (No-Welt Pattern).

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THE GARDEN

No. 2573.—Vol. LXXXV.]

NOTES OF THE WEEK

[March 12, 1921

THE time for pruning Roses is approaching. The majority of Roses should be pruned the second week in March. Tea Roses are best left until April. Roses should be pruned rather severely the first time after planting, that is to say, last year's growth should be pruned to within 2 inches or 3 inches from its base. The inexperienced amateur seldom prunes his Roses hard enough. Even rambling Roses should be cut back to within about 6 inches of the ground the first season after planting, but established ramblers should be pruned after flowering.

An Effective Rhododendron.—In the conservatory at Kew there is a fine plant of Rhododendron Kæmpferi literally smothered in bloom. This Rhododendron, which is closely related to R. indicum, is a native of Japan and is a semi-evergreen or nearly deciduous shrub. The flowers are rosy scarlet, have bright yellow anthers, and are highly ornamental. Cut sprays, when placed in water last for a week or two and are very effective under artificial light.

Rhododendron maximum 14 feet High.—At Dawyck, in the Upper Valley of the Tweed, there is a plant of Rhododendron maximum, planted probably in the 'forties or early 'fifties. It is about 14 feet high and has three stems of about 15 inches girth. Professor Sargent when he saw it in 1914 thought it as large a plant of the "American Laurel" as he had seen in cultivation. It flowers with me in early July, and is, of course, as hardy a species as R. ponticum; indeed, more so as it is native in New England, where R. ponticum does not survive. I have several wild, lifted American plants of it. You state that it has not been much used in hybridisation, but I think I am right in saying that Professor Bayley Balfour thinks it the probable parent of many so-called Rhododendron catawbiense hybrids. It is curious that most or all "catawbiense" hybrids have sticky young shoots, very characteristic of R. maximum and not of R. catawbiense. A few years ago I was able to fertilise a few very late R. maximum and have raised a few seedlings from the resultant seed which show in their foliage characters of both parents.—F. R. S. Balfour.

Sowing Annuals in the Open.—Some readers, we find, after reading instructions about sowing and raising annuals under glass, imagine that they cannot be successfully grown in the open garden. It should be made perfectly clear that all hardy annuals can be sown and raised in the open with good results, so long as the ground is dug over and left with a fine even surface. Of course the annuals raised in the open will be later than those sown under glass, but in many gardens this is an advantage rather than otherwise.

An Early Summer-flowering Perennial (Stachys grandiflora robusta).—The illustration below depicts a luxuriant variety of Stachys grandiflora, which is also known and is figured in an early number of the Botanical Magazine, tab. 700, as Betonica grandiflora. A Siberian plant, it is said to have been first introduced about 1800. The many-flowered whorls of violet flowers are freely produced in early summer. A hardy herbaceous perennial, the subject of this note and other Stachys (Hedge Nettles) thrive in any garden soil.

A PERENNIAL THAT WILL THRIVE IN ANY SOIL.

A New Delphinium.—The illustration on the front cover of this issue depicts the new Delphinium, Mrs. W. Wells, the flowers of which are rosy mauve. Some idea of the vigour and beauty of this variety may be gleaned from the fact that the illustration is of belated spikes photographed the first week in October.

Saxifragas at Kew.—The bright sunny days during the past week or so have brought several of these alpine gems into full flower and the rock garden is looking quite bright at present. Those Saxifrages now in flower include Burseriana, pure white; Irvingii, white tinted pink; oppositifolia, rosy purple; apiculata, pale yellow; apiculata alba; Haagei, deep yellow; Elizabethæ, yellow; Boydii, yellow; B. alba; L. S. Godseff, yellow; and marginata, pure white. There is also a fine batch of Megasea ligulata speciosa, whose purplish flowers are very showy, and a batch of Megasea ciliata, white suffused pink.

A Little-known Plant (Pericome caudata.)—This beautiful compositæ deserves to be better known. The strong scented, golden yellow flowers, last a considerable time. It is a native of Colorado and was introduced in 1896. It is sometimes spoken of as a shrub, but the large clump we have in mind is growing in the open and flowers freely every year and never attempts to be anything other than herbaceous.

Nemesias as Bedding Plants.—It is pleasing to record the increasing popularity of this half hardy annual as a summer bedding plant. During August two beds of the large flowered varieties, edged with the dwarf compact (hybrid) varieties were the outstanding feature of the Promenade Gardens at Lowestoft. Raised in a cold frame and planted out early in June, 6 inches to 9 inches apart, the Nemesias are not only useful seaside annuals, but evidently grow and flower well during moist and dull weather.

FORTHCOMING EVENTS

March 14.—United Horticultural Benefit and Provident Society's Annual Meeting. Bath Gardeners' Debating Society's Meeting.

March 22.—Royal Horticultural Society's Fortnightly Meeting.

CORRESPONDENCE

SPARTIUM JUNCEUM AND ITS TIME OF FLOWERING.

IN reply to a recent correspondent on this subject, it appears to me that moisture is mainly the governing factor in deciding the blooming period of this shrub. Here, on a bank of light soil, which quickly dries up in summer weather, S. junceum responds in a most marked manner to moisture. In a wet season like the last, for example, the shrubs were continuously in bloom, but when we get a dry August and September they will go off completely, coming on again with renewed vigour with the autumn rains, and often flowering until Christmas. We never cut back this subject, preferring to raise fresh plants every couple of years or so. Few shrubs are more easily propagated by seed and surely few can equal the rate at which the seedlings grow.—A. T. J., *N. Wales.*

I HAVE been interested in the notes on Spartium junceum that appeared in THE GARDEN recently, particularly those on page 16 regarding its flowering on the Riviera. Our period of flowering here, in the warm interior Sacramento Valley in California, seems to almost coincide with that, since the Broom begins to flower in the latter part of April, is at its height in May, and is scattering its bloom through June. This is not strange, I suppose, considering our similar warm, dry summers. On the coast, however, and around the bay regions in California, where the air is moister and cooler, the Broom behaves much as it does in England, coming into flower later and continuing through the summer and fall. Here, in the interior, the leaves are small and narrow, and my impression is that they remain on during at least part of the summer. There is none at all, however, during fall and winter. To supplement its sparse foliage I have it growing with Ceanothus Gloire de Versailles, which does very well here. In May the two shrubs are both in flower, but the Ceanothus blooms intermittently through the summer and well into the autumn. My Ceanothus, however, is just a young bush, and I cannot say how a well developed shrub would behave, since it is difficult to judge of any plant's behaviour here without experience. I am tempted by the notes in THE GARDEN to try Clematis with the Broom.—LEILA B. STAPLETON, *Oroville, California.*

THE YELLOW SPANISH BROOM (SPARTIUM JUNCEUM).
The flowering season varies from April to Christmas.

EARLY FLOWERS AND THE MILD SEASON.

I HAVE to-day (February 27) filled two big vases with branches of Prunus Pissardii in full bloom. Neither my gardener nor I ever remember picking it in February before. Can any of your other readers recall so early a blossoming? If so, it will be interesting to have the dates.—E. BYNG OF VIMY.

I SEND you a bit off a spray of a very fine large-flowered Almond from an old garden in Shankill, County Dublin. You will see the flowers are 2½ inches across (when they open) and of a very delicate pink colour. The tree is about 45 feet high and sets fruit regularly. Erodium corsicum in the same garden flourishes in an herbaceous border and seeds freely. Calceolarias grow outside unprotected all the winter and flower intermittently through the winter months. On February 27 Eccremocarpus scaber was flowering on a wall without any protection.—W. PHYLIS MOORE, *Glasnevin.*

BUTTERFLIES AND STATICE.

ON page 28 of THE GARDEN for January 15 Mr. Ballard gives two varieties of annual Statice, sinuata and Bonduelli, as being plants the flowers of which butterflies delight to visit. If this be the taste of Malvern butterflies I very much regret that those of Whitewell are quite different. It is a curious coincidence that Mr. Ballard should mention these particular plants, for last summer I had a fair-sized bed of each, measuring about 16 feet by 4 feet, and I cannot remember seeing a single butterfly on either during their long season of blooming, while 30 yards away was the Michaelmas Daisy patch where Red Admirals and Tortoiseshells abounded. My Statices were raised under glass in the orthodox way—pricked out first, then planted in their permanent homes, but I would hardly call them "summer" blooming like Mr. Ballard, unless he would include late August and September in that season. Perhaps if we had had more sun and less damp and rain things might have been different.—JOSEPH JACOB.

THE SIZE OF YEW TREES.

THOUGH I can give no figures, the measurements of the Yew mentioned by Mr. T. W. Briscoe in THE GARDEN of February 19 must surely, I think, be very inferior to those which might be afforded by many trees in this country. The fact is the Yew is rather a deceiver in so far as its girth is concerned, for, unlike any other tree with which I am acquainted, it is possessed of the power of continuously renewing its vitality, if not its youth. Thus a Yew may become all but a skeleton, but, nothing daunted, it will wrap up its old bones in a fold of fresh wood and "carry on" as if nothing had happened. In addition to this the many side or basal growths which spring up from healthy bark may grow together and in due time lend their aid to the thickening of the trunk. What are a "thousand years of gloom" to a tree with such recuperative energy? Dead Yews ought to be as rare as dead donkeys. So the old ones indeed are, but when Yews die they die young, as one may see in almost any wood where the species abounds in a natural state.—A. T. JOHNSON.

THE COLOURS OF EARLY SPRING FLOWERS.

REFERRING to "J. G. W.'s" letter in THE GARDEN of February 19, do we not find that yellow or white flowers are the majority more or less through the year, but the abundance of flowers in the summer months makes us notice those colours we like best? The wild Dog Rose is the glory of our hedgerows and thickets in June, and we do not notice the yellows and whites, which, nevertheless, are numerous in that order, *e.g.*, Agrimony and Silver Weed, Meadow Sweet, and most fruit trees. The Primrose tribe in summer continues its yellow in Loosestrife and Creeping Jenny. The very numerous Umbelliferæ gives us white flowers or dull yellow, *e.g.*, Carrot and Parsnip. In Compositæ, besides Dandelions, there are hosts of Hawkweeds and Hawkbits, Ragworts and Dog Daisies, though we perhaps notice more the purple Thistles and Knapweeds. The Foxglove spire and the little Speedwell's darling blue we love, yet that showy order to which they belong has Mulleins and Butter and Eggs. The quiet pleasure of the colours of Heath and Harebells may well be associated with St. John's Worts not far off. The Pea tribe abounds in yellows, leading off with Gorse and Broom and going on with yellow Vetchling and Bird's-foot Trefoil, which made sheets of colour in fields here last summer. As to sheets of colour, spring claims the Bluebell, a set-off to its yellow or white. I believe the cause of bright colours is sunshine. Our Anemones and Buttercups are represented in Mediterranean countries by the wild forms of our gorgeous garden kinds. The orders to which our showy flowers belong apparently did not begin till after the Chalk Period. It may be that clearer skies, due to the elevation of the land, were the means of developing these treasures of the vegetable kingdom.—GEORGE YONGE, *Cranleigh, Surrey.*

I MAY not be giving a satisfactory answer from the scientific point of view to the question raised by "J. G. W." in the issue of February 19 when I point out that the comparatively quiet, cool and fresh colours of early spring flowers harmonise much better with the low tones of their surroundings at this time of year. Colouring such as we get in Dahlias, Begonias and most summer annuals would look crude and glaring amid the quiet drabs, olives, browns and greys of the winter landscape. The soft drab-green of frostbitten grass makes the most perfect setting and background conceivable for the virgin purity of Snowdrops, also for the living green and sparkling gold of early Daffodils. All the countless and indescribable tints of gold, lemon, primrose, citron, orange, cream, ivory and white, faint elusive buffs and pinks to be found nowadays in the great Daffodil family would be lost unless seen against a neutral tinted background, and, moreover, would look out of place amid the strong greens and bright colours of summer vegetation.

the summer and autumn months of last year, as a series of New Zealand raised seedling Narcissi, which were sent me by Mr. Norman R. W. Thomas of Auckland, began to flower in June and kept on till November. I was much struck by the washed-out appearance of the flowers when looked at in the midsummer sunshine in the garden, surrounded by midsummer flowers and foliage; dainty Leedsiis looked dirty and yellows thin. They gained much character when cut and brought into a room from which sunlight was excluded; while those which bloomed in late October when the surrounding colours had become subdued looked ever so much better and gave one far more pleasure. I have no doubt also that the cool and delicate tones of early spring flowers are seen to best advantage in the comparatively subdued light of the early months of the year, for I have often observed that Daffodils look much better in the evening light when the sun has gone off them, while May-flowering Tulips require the full brilliance of the morning sunshine to reveal the wonder of their flaming colours to best advantage. Nature makes no mistakes in her colour and light effects; not only is the early spring scheme perfect, but it is a wonderful study to watch the series of perfectly beautiful and harmonious effects which follow each other month by month, or indeed week by week, as the year moves onward, and which are achieved the while by widely varying combinations of colour and strengths of light. With the advent of the brilliant May sunshine there is a great and quick change of scene; sometimes in the space of but a week or so the earth is decked in the exquisitely fresh and tender greens of young foliage on the trees, and new grass in the meadows, and now we get in the May-flowering and Darwin Tulips a sudden outburst of some of the most vivid and magnificent colouring we see throughout the year, the varnished gloss of the flowers greatly adding to the brilliance of their effect. Seen in the full sunshine of a hot May morning they present an opulent riot of splendour that has in it something of ecstatic and youthful abandon, and is, withal, just the right complement of the flood of vivid and shimmering fresh greenery that prevails on every hand. In late June, and July in the dog days, our beautiful Delphiniums give us most appropriately a lavish display of the coldest of all colours; their lordly spikes of infinitely varied and brilliant blues are then most welcome to the eye, and the chief glory of the garden. The perhaps, more sumptuous and florid raiment of many summer flowers harmonises well with the heavy fully developed foliage of trees and the rich greens of growing crops over the countryside. In the autumn, when the gleaming pale ochre-gold of the harvest fields is a dominant note in the landscape, purple, a colour very little in evidence at other times of the year, comes into prominence. Regal tapestries of Clematis Jackmani and flaming Ampelopsis foliage drape our walls, tawny Chrysanthemums and beds of soft purple gold-hearted Aster sinensis bask in the mellow light, and drifts of various Michaelmas Daisies give clouds of misty lavender and lilac in our borders, their bronzy stems and foliage making an admirable foil; while trees arrayed in glowing autumn oranges, moss-greens, tans and yellows, with the vivid green of meadow aftergrass showing through their stems and a vista of cornfields, with Heather-clad hills looking like amethysts in the distant horizon, provide a background and complete a picture whose rich harmonies are entirely satisfying; yet how remotely different in effect from the celestial and unearthly loveliness of a host of pale and white Daffodils in the soft twilight of a balmy evening in "dear April young."—Guy L. Wilson.

FLOATING FLOWERS IN BOWLS

In Favour of a Criticised Method of Arrangement

I HOPE a reader of The Garden may be permitted a few lines in deprecation of the somewhat harsh censure lately passed by two contributors on a certain use to which growers of flowers sometimes put the flowers they grow. There are those, it appears, who, among other ways of arranging flowers, like to float certain blossoms in shallow bowls, believing that in this way they get desirable effects not obtainable when the same flowers are arranged in vases. Those who do this have been called "Bolshevist" and "infantile," and by implication are held to be toadying to fashion and outraging Nature. These are surely hard things to say even about a serious heresy in the arrangement of flowers. The floating of flowers, it is true, is not absolutely forbidden by these purists provided the flowers are such things as miniature Water Lilies, grown, to ensure absolute correctness, in pottery from the country of their origin—a charming suggestion which we would all, no doubt, gladly fall in with if we had the Lilies and the pottery, provided also that the receptacle and flower suited each other, which, coming from the same soil and climate, it is presumed they would. Another critic thinks that no flowers should be seen "afloat" except Water Lilies, and the "Forget-me-nots that grow for happy lovers." No one, of course, will deny that Lilies and Forget-me-nots look at home in water, which in this matter is the final test of fitness, though it seems a little unreasonable on the part of this critic to exclude a score of other pretty weeds that grow in British pools. "There is a modicum of beauty," says "H. C. P.," "in seeing the stems of the flowers in clear glass and sparkling water, the little air-bubbles settling in the water making the picture complete and true to Nature." Stems and crimson thorns seen in clear glass and sparkling water are certainly pretty things; but may one remind "H. C. P." that such an arrangement, lovely though it may be, is no more "true to Nature" than a similarly artificial arrangement of flowers floating in a bowl and jewelled with drops of the material that forms her bubbles. Nature has given no direct sanction to severing Roses from the bush on which she grows them or to placing them in glasses of water in order that we may watch the play of the air-bubbles on the thorns, though it may be contended that indirectly she has given her sanction, since she provides us with the faculty for perceiving the beauty of such things, just as she has given to others (though improperly, on her part, as it would appear) the faculty for perceiving the beauty of certain flowers floating in water. If "H. C. P." may, without offence, find delight in stems and thorns and clear glass and bubbles, as she surely may, why may not others, without offending artistic sensibilities like "H. C. P.'s," find similar and equal pleasure in the cups of certain flowers when they float gracefully in water? "Sweet Peas beheaded, what are they?" asks "H. C. P."

HOWEVER HERETICAL IT MAY BE, FLOATING DAHLIAS ARE PLEASING TO MANY.

What, indeed! But is not "H. C. P." taking an absurdly extreme case, for even a Bolshevist might hesitate to float Sweet Peas. The flower-floating brotherhood may lack the artistic sensibility claimed by their critics, but quite a number of them possess a little common-sense and a more or less sane judgment, which they bring to bear in choosing flowers for their special purpose. In the Sweet Pea "H. C. P." selects one of the least suitable flowers for floating, which on her part is being not quite so fair as no doubt she would like to be. As "H. C. P." observes, the Sweet Pea is built for flying, not for floating—its affinity is with the butterfly, not with the swan. Those who would "float" to advantage must select suitable flowers (the range of which extends far beyond Water Lilies and Forget-me-nots) flowers built for floating, preferably of a cup or platter shape, not "butterfly" blooms like the Sweet Pea, which, though it has a keel, is not built on floating lines. The flower selected must in its build resemble a vessel of some kind—ship boat, canoe, shallop, basin, walnut shell or what not—something with a decided convex and concave with the curvature of a hull in short, a blossom which, when launched, will move on the water with a buoyant rocking motion, and when at rest

will turn up its tasselled interior with a docility it is not so apt to show in a specimen vase. In all flowers a large part of the beauty—in many flowers the chief part—lies in the mechanism of the interior; and this is almost invariably more or less concealed when the flower is arranged in a vase, however graceful the arrangement may otherwise be. The beauty of a Water Lily is due largely to its rich display of stamens which, in the expanded flower, are seen to advantage because of its horizontal position in the water. But lovely as we know the heart of an expanded Lily to be, I cannot think for my part that in combined beauty and interest it surpasses the heart of the vulgar Poppy. Arranged in any way you choose a Poppy is beautiful. But if you wish to see, at your ease and to full advantage, the interior of the flower, where the finish has been given to its beauty, float it. Set the perfect bloom of a Shirley Poppy afloat and then say whether by any other arrangement you can so fully realise the beauty and wonder of all its parts.

Some time ago a writer in THE GARDEN, whose name I cannot recall, mentioned Dahlias as suitable flowers for floating, a suggestion which provoked withering comments from a subsequent contributor. Of course there are Dahlias *and* Dahlias. The quilled pincushions which florists used to exhibit as Dahlias (and of which I have a pleasant memory) would not be seen to advantage afloat. But of late years other types have come into being, some of which I venture to say, however audaciously wrong it may be to say it, not only look lovely floating in water, but are not seen to such advantage under any other conditions of arrangement. A good bloom, the larger the better, of one of those expansive, floppy, but magnificent Dahlias which the trade lists call "Pæony-flowered," say Aphrodite, placed, with one of its own five-fingered leaves, on the broad of its back in a black basalt Wedgwood bowl filled with water to the brim, is an ornament for the table of an emperor. If you attempt to arrange this fine flower in a vase, I hope you may succeed to your complete satisfaction, but I do not think you will. The advocate of the Dahlia as a "floater," who seemed to know the possibilities of the flower better than his critic, recommended, if I remember rightly, Messrs. Cheal's new "Star" Dahlias as good subjects for floating; saying, by way of commendation, that the flowers so used suggested the grace and poise of the Water Lily, as they certainly do. No one could fairly suppose that in making this suggestion the writer proposed to mimic the Water Lily or indulge in any form of make-believe. He merely took the Water Lily as a well known type and standard of grace and poise, and suggested that a similar charming effect might be got by using "Star" Dahlias. Surely there is no justification here for poodle-lionesque comparisons. Anyhow, without wishing to say anything in depreciation of Water Lilies, except that they require a pond to grow in, I take my courage in my two hands and maintain that certain Dahlias are lovely objects seen floating in water, and further that Nature, when she inspired Messrs. Cheal and Co. to create their charming race of "Star" Dahlias and made the flowers to rival in shape and colour the most splendid Nymphæas, took for granted that we mortals, foolish as she knows us to be, would yet have sense enough to understand that when she gives us a beautiful flower she intends us to enjoy its beauty in all the ways in which its beauty is enjoyable. The smug conviction of our own superiority in the matter of taste is, I fear, an unamiable and antisocial, if not un-Christian, frame of mind to which we are all—if I may judge of humanity at large by the small portion of it best known to myself—too prone. For my part, I hope I have schooled myself to forgive others their tastes as I wish mine to be forgiven, though I am not so sure about it as I should like to be. But I do try—I do seriously and religiously try. I try to suffer even florists gladly.

SOMERS.

THE note of "H. C. P." in your issue of February 26 appears to condemn a very easy, beautiful and justly popular fashion. Recently I saw a fine crystal bowl 16 inches across containing Lenten Hellebores (dark and light), a few heads of Pulmonaria, and a bunch of Violets resting on the edge of the bowl. A most attractive centre on a luncheon table. Decorative Dahlia Delice and many others are delightful on water, and so are many of the semi-double Roses. I have not tried Sweet Peas, but by using almost any lavender shade one could successfully imitate the nautilus of warm seas. "H. C. P." finds pleasure in seeing what many of us endeavour to conceal, viz., the stems of flowers in glass vases! The world is wide, and all these matters are really very personal, fortunately. Even at London shows one has frequently stood awe-struck and unhappy before some so-called "decorative" work. To those readers who want more receptacles for flowers, or who are dissatisfied with those they have, I suggest the dark brown Silchester ware, made in many splendid shapes and very becoming to flowers. Before the war this ware could be obtained from John Hall's Old Hall China Shop, Salisbury.

WEST COUNTRY.

OUR IDEAL DELPHINIUMS

A Professional Defence of Modern Tendencies

WE read the remarks of your correspondent under the heading of "My Ideal Delphinium," in your issue of February 26, with much interest and we hasten to assure him that there is nothing wrong with the ideal at which we are aiming (we assume that we are among those referred to, as several of the varieties named are of our raising).

MILICENT BLACKMORE.
A new Delphinium defended by its raisers.

We have for many years been working to obtain Delphiniums pure blue in colour, though not to the exclusion of our efforts in other directions, and if the writer of the article had called at Twerton Hill Nursery last summer he might have seen a trial patch of about a thousand plants, which would have convinced him that we were making great efforts in this direction and that we had achieved something, as there were many varieties pure blue in colour, although varying greatly in shade.

We also keep in mind the fact that the best form of spike is one, broad at the base and tapering to the top and with flowers not too closely packed. The variety which conforms nearest to this ideal is our novelty, Millicent Blackmore. It is, alas, one thing to have an ideal and another to attain it. Those who are working at the improvement of any race of plants know to their cost that though they have an ideal, it is often many many years before they reach it, if they ever do. They must be content with small advances year by year.

It might be interesting to your correspondent and other readers if we enumerate a few varieties in our catalogue, of different shades of blue, and which, though not reaching our ideals of what Delphiniums should be, are really blue, some of them carrying spikes of the desired tapering habit. Colonel Douglas, Colonel Sir Wyndham Murray, Harry Smetham, Lady Hammick, Lord Lansdowne (a magnificent pure rich blue, of splendid growth and strong constitution), Queen of Bath and Yvette Guilbert. There are others which have so slight a shade of rose that it is unnoticeable a short distance away, notably Robert Cox and Turquoise.

We have said enough to show that we already have some good blues and that we are striving hard to get better, but why should we confine ourselves to one colour in any flower if it is possible to get others? What would be thought of the person who advocated growing red Roses to the exclusion of all other colours? Now, seeing it is possible to get shades of mauve, violet, lavender, heliotrope and rose in Delphiniums and seeing also that there are hosts of people whose tastes are "perverted" enough to admire these colours, why should we not strive also to obtain them in self colours and in the subtle and exquisite blendings which we now have, and which opens out such a wide vista of possibilities for the future? We shall welcome the pink Delphinium when it arrives, as well as *good* flowers in any of the colours mentioned above and are confident that there will be plenty of flower lovers who will welcome them also.

With reference to prices for novelties. It is absolutely imperative that if new varieties are to be raised, the raiser should be repaid for his trouble, and when the stock of a variety is small, as it must be of necessity when first introduced, the price must be comparatively high, especially is that the case now, when the cost of production is so high. It is a fine thing to have a tradition for generosity, but something more than that is needed to meet the weekly wage bill a nurseryman has to face.

BLACKMORE AND LANGDON.

Delphiniums: How and Where to Plant for Happy Grouping

No hardy herbaceous plant flowering at high summer-time is held in higher esteem than the Delphinium, none capable of richer effect than it when, rightly regarded, it has been given an opportunity of playing its part. This it may achieve in various ways—in isolated groups, the ordinary herbaceous border, or even in association with shrubs. Afforded flanking positions to Azalea or Rhododendron on rising ground, set belt-fashion in any position where agreeable foil exists, made to rise in succession to Pæony or Pyrethrum informally grouped, or springing from and in its flowering synchronising with waving sheaves of Moon Daisy or like plant, what is there, I ask, among the flowering plants of the year more worthy of considered care, more sumptuous or luminous—if all too rare—than the choicest blues these Delphiniums afford? None, surely! Great in the true sense, they impel admiration because of stature, spire-like elegance and a contribution to garden picture or landscape which is theirs alone. The spacious crescent-formed border on gently rising ground is ideal for them, and whether approached from the higher or lower level at flowering-time, the effect of a well assorted selection just baffles description. A year or two since I was suddenly confronted in a Surrey garden by a generous association of Phloxes and these plants, obviously arranged for successional flowering. It did not appeal, however, though in the main its object was attained. As to how to plant them for effect, there is but one way, viz.:

Grouping or Colonising, and that on as generous a scale as circumstances admit. Most important, however, in this connection is colour selection, the Gentian blues here, the sky blues elsewhere, always confining a group to a separate shade or variety. In the case of the Anchusa, where the varieties Opal and Dropmore are planted in close proximity, that last named dominating has a belittling effect upon the other. Alone each is capable of brilliant results. So it is with the Delphinium, each colour should be alone. Thus arranged each is capable of standing on its own feet, while colour clashings and incongruities will be avoided. Then, if one might intrude in a personal sense, it would be to say that the true blues —rich Gentian or sky—having white eyes or centres appeal to me in a stronger way and more immediately than the mixed violet or purplish shades having dark bee-formed centres. Excellent by way of contrast and indescribably beautiful near by, those first named are immeasurably superior in the picture and, because of the double part they play, worthier of fuller consideration. The more graceful their carriage, spire-like their form, with easily disposed flowers, the nearer is perfection, the more generous their decorative aspect. Those having densely symmetrical or columnar spikes cannot hold the proverbial candle to these in these respects: the colossal and [illegible], as Sir Douglas Haig, for example, fit only for the ranks of the undesirables. The varieties that tell are such as Lizzie Van Veen, Queen Mary, Persimmon, conspicua, Mrs. J. S. Brunton, Lamartin, Willie O'Brien and others of that type, and of such our gardens can never be too full.

As the moment is opportune for planting, a word or two in concluding might be added on this head. In light and well drained soils the Delphinium transplants well either in early autumn or in spring. For heavier soils, however, I prefer deferring their planting till March. Then with renewed growth new root activities follow and the plant soon takes to its new quarters. Every effort should, however, be made to improve heavy soils by trenching, liming, the addition of grit, leaf-mould, burnt clay—most valuable—anything, indeed, calculated to assist drainage and ensure porosity. To this end light litter or long strawy manure is useful. The lighter and sandier soils will be better treated with cow manure because of its cool nature. In general terms the Delphinium enjoys a rich as well as a deep soil, and with the manure worked well down the roots will be attracted to the richer soil in due course. As to the size of the plants, no planter of experience would crave for clumps, and of novelties he is not likely to get them. A safer way, too, even where clumps obtain, is to break them up, *not plant them intact*. A goodly clump intelligently divided would form the nucleus to a decent group, and as crown buds in the Delphinium form readily and freely, periodical division is desirable in order to ensure a continuance of the finest spikes, though in certain soils they may for years acquit themselves well without it. A fair planting piece is that having two or three sturdy shoots and well rooted to boot. A more satisfying plant is that divided a year ago and given nursery treatment since. In large measure the specialists supply these latter only. Finally, in planting, keep the crowns 2 inches or 3 inches below the surface. It ensures the stability of the plant and encourages rooting. Plants of the description named may be arranged 2 feet apart each way.

E. H. Jenkins

If the Delphinium is to retain its title as queen of the hardy border flowers—and so far it is unrivalled — we must have strong growing plants. However good the colour may be, a dwarfed inflorescence is of little use for garden effect; the tallest spires being the best for the border. Delphiniums can be made to bloom for months by cutting off the spikes after flowering. When the centre spike is cut away, side shoots send up a succession of flowers. It should not be forgotten, however, that continuous flowering tends to exhaust the plants, and a top-dressing of rich soil and manure should be applied. The clumps should be replanted and divided every three or four years. This is best done in spring just as the plants are starting into growth, though it may be carried out successfully in late summer, but not in late autumn. The plants should be cut down about ten days beforehand. They start growth afresh, and are then ready to divide and replant. Do not omit to water overhead and shade after replanting in late summer.

Every hardy plant catalogue contains a lengthy list of varieties. Perfection, pale blue and heliotrope, as the illustration denotes, is very well named. In the background can be seen another distinct variety, Rev. E. Lascelles, purple blue, with prominent white centre. Duke of Connaught, King of Delphiniums, Carmen, Lamartine, Moerheimi (white), Persimmon (sky blue), The Alake (royal blue) and the exquisite Belladonna (Cambridge blue) are all grand border varieties. H. C.

DELPHINIUMS, FROM PALEST BLUE TO DEEPEST SHADES OF INDIGO, GIVE DIGNITY TO THE MIXED BORDER.

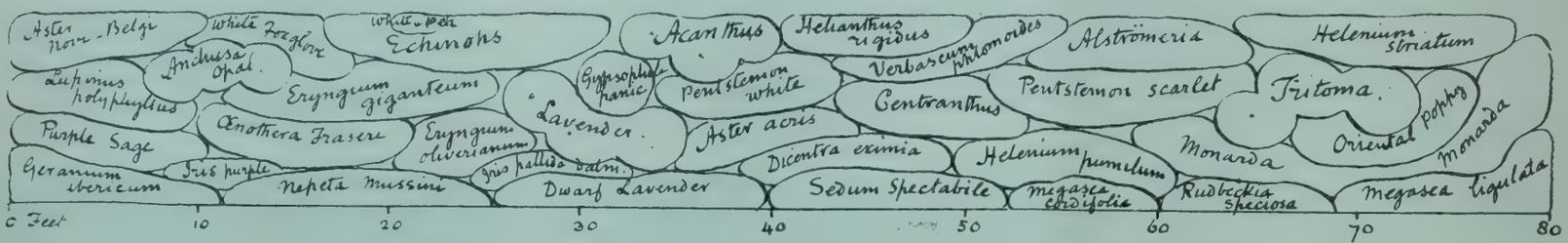
Border Plants that Succeed Best

BY GERTRUDE JEKYLL, V.M.H.

On Light Soils

MANY of the best border plants will do equally well in soils of a light or a heavy character, but it may be helpful to point out a certain number of those that are distinctly preferable for one or the other. It may be taken as a rough rule that plants or shrubs from Southern Europe, the Mediterranean region and the nearer Orient, such as Lavender, Rosemary, Phlomis and Santolina, will be thankful for the warmth of our lighter soils, even though their actual habitat may be on loam or limestone. This will include all the Cistus tribe, embracing the Helianthemums, the greater number of the Artemisias, the Euphorbias and the Eryngiums.

It may be taken as a compensation for the natural poverty of the lighter soils that this quality tends to check over-exuberance of growth and encourages both profusion and good colour of bloom. In fact, if it is reasonably enriched, a naturally light soil is the pleasantest for general gardening, for it can be worked in all kinds of weathers except the heaviest wet; it is not soapy or sticky in the winter months or like a hard brick full of cracks in the dry days of summer; moreover, that there are whole families of plants that have a special need of lime. These include the Cruciferæ in general—Wallflowers, Stocks, Rockets, Iberis, Arabis, Aubrietia and Æthionema; also other families, such as all the Dianthus, and the greater number of the Anemones, Clematis and Campanulas. Phloxes of the decussata class are apt to be unhappy on light soils, but revel in a rich loam. It is almost impossible to grow the pretty double Primroses in their charming colourings of white, yellow, lilac and crimson on a light soil, even though constantly enriched. Nearly all the Roses are loam lovers, as we know well by experience with their near relatives the fruit trees, almost the only exceptions being Raspberries, the native form of which runs riot in sandy copses, while the cultivated kinds bear heavy crops in the light-soiled fruit garden.



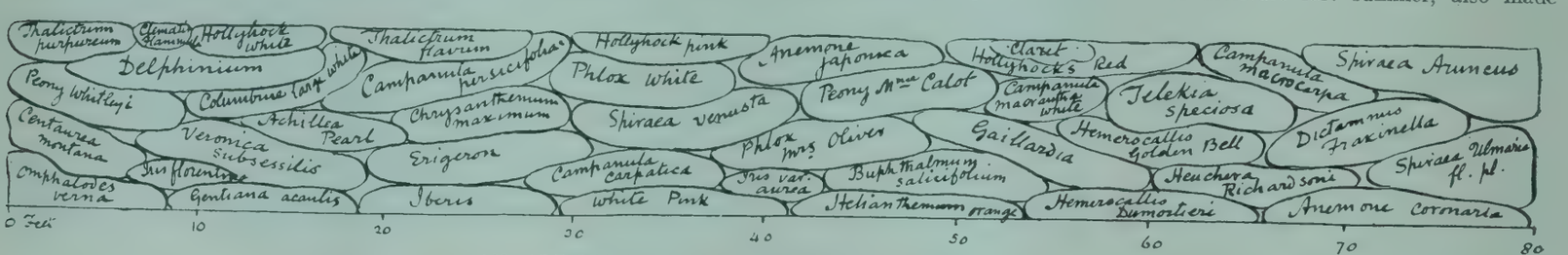
AN ATTRACTIVE ARRANGEMENT FOR A BORDER OF PERENNIALS ON LIGHT SOIL.

it is decidedly favourable for the greater number of bulbous plants. The plan gives a section of a flower border showing plants, the greater number of which are specially desirable for light soils. The white Everlasting Pea notched into the back of the Echinops is meant to be trained over and among the branches of the Globe Thistle as this goes out of flower.

On Heavy Soils

THOUGH the best border plants are, as to their greater number, amenable to treatment on any soil that is well cultivated and fairly enriched, there are some that are so closely addicted to their own special requirements that they must have what they want or they "will not play." Of important border plants the first that come to mind are the Hollyhocks. It may safely be said that on poor soils it is impossible to grow Hollyhocks without their being attacked and weakened by the fungoid disease Puccinia malvacea, while in a soil that is rich in loam or lime the pest is either absent or so little prevalent that it need not be considered. Growing Hollyhocks on a poor soil is a continual struggle, and though rich feeding may give enough strength for the production of a fairly good flower-spike the handsome pyramid of healthy foliage down to the ground cannot be expected; the leaves are pinched and shrivelled with the disease, and the naked spike has to be concealed by a planting of something fairly tall in front.

For general convenience it is usual to group together as heavy soils those that are loamy and calcareous. But it may be well to remember



AN ALTERNATIVE SUGGESTION FOR HEAVY SOIL.

PERENNIALS FROM SEED

Some Misconceptions

THE culture of hardy perennials has never been more popular than it is to-day, as scarcely a garden of any size is without them, yet, strange to say, not a little misconception exists in the minds of some people as to the methods to be employed in order to gain fresh stock. Two avenues only appear to be open to most folk—one is the purchase, or procuring what is wanted, or to wait until plants are large enough for the roots to be divided. Suggest to those who have always confined themselves to these methods that there is still another procedure available, viz., that of sowing seed and raising as many plants as desired, and they invariably tell you either that the process is a very long and tedious one, or that they never had much luck with perennials from seed. As a matter of fact, in these days when quickness looms largely in the ascendancy not a few are unwilling to exercise patience and to wait a little for plants to grow. With them there must be no season without flowers, and annuals are quite long enough on their journey until the blooms appear. It is not easy to disabuse the minds of those who talk and think in this way, but it is only part of the truth to place all perennials in the same category and regard them as being a long time on hand until they reach their beauty stage.

Exceptions.—It is a fallacy to believe that because clumps of perennials in the border have been obtained by dividing the roots that the small seedlings will be two or three years before they make sufficient size to be planted out in their flowering quarters. It is not so, as there are certain very popular perennials which can be propagated from seed one year, and will with certainty bloom the following, if not in the same season of sowing. Two or three examples will demonstrate what I mean, they are taken from my own garden. Geums, sown under glass in March, pricked out in a bed to themselves in May, given good soil and plenty of room to obviate any further necessity for disturbing them, made splendid plants, from which in October I cut a number of nice flowering spikes. Pyrethrums, sown in boxes in a cold frame in May, have, thanks to the abundance of moisture last summer, also made excellent progress, so that almost within a year I shall have plants full of bloom. Gaillardias, brought up likewise in a cold frame and seed sown in April, 1920, were nearly all showing for bloom by September and had to have the buds pinched out in order that the growth of the plants should take precedence. Gypsophila paniculata, which is not an easy subject to divide because of its long taproots, is always better raised from seed. In this case growth has been rather longer, as it was not until August that the panicles appeared as a result of seed sown in May the previous year. Instances can be multiplied and show that there is not really such a long wait after all between the time of seed sowing and blooming of many perennials.

Common Mistakes.—Where so many err in regard to sowing seeds of perennials is in the initial stage. They commence operations generally on borders where other things are grown, tall subjects among the rest, which exclude a deal of air and sun and often light, which are so vital and mean so much to the progress of little plants. Not infrequently, because it is known that they cannot be expected to flower in the current year, interest is not quite so keen in them at this

are allowed to remain and impede growth. If no other course is available than that afforded by a border, then it should be one open to sun and air. That is the reason why, in general practice, I favour sowing seed in boxes, starting in a greenhouse, or, better still, a cold frame having a south aspect, and getting the plants pricked out in good soil in which some form of manure has been incorporated. When this plan is followed and seed sown from a reliable source, few disappointments occur; indeed, success is the commonplace and failure the surprise. W. LINDERS LEA.

PLANT PERENNIAL POPPIES

There is Nothing in June to Compare to the Gorgeous Oriental Poppy

THOUGH the Poppies are individually very ephemeral flowers, they afford us such wonderfully intense glowing colour masses in the garden and hardy border that it is difficult to imagine what we should do without them. The delicate texture of the petals, charming and distinctive foliage, well poised flowers and attractive budhood, all combine to make an ideal flower, a flower that we admire and love the more perhaps because it is so fleeting. Speaking of their budhood reminds us too of how fascinating it is to watch the buds gradually push out from between the leaf axils, carrying a drooping case, green and hairy, that daily becomes fuller and fuller, until at length it stands erect and we know that, early on the morrow, the enclosing case will break asunder, detach itself from the stem at the base and the thin, closely packed satiny petals slowly unfurl in the sunlight.

A Poppy flower is never more beautiful than when three-parts expanded and while the edge still retains its marvellous crinkling and crimping. Nor is the beauty entirely past even after the petals have faded, for the clustering stamens, with their masses of blue-black pollen still hang and the seed capsule looks most attractive. Where the flowers are not cut, this capsule continues to be an object of interest all through its development and ripening, until the final stage is attained, when the roof rises and the tiny windows open and the winds of autumn sway the stems and scatter the tiny seeds in all directions.

Among my own favourites are the tiny Alpine Poppies, which resemble the fine Icelands both in growth and colours, though they are but 6 inches in height and reduced throughout in proportion. In little informal drifts against granite rocks they are ideal, the yellow, white, orange and rose flowers appearing to special advantage by contrast with the grey blueness of the rock.

Occasionally among the seedlings one comes across a variety with beautifully fringed petals and these are worth special attention for seed-saving purposes. The Iceland varieties form one of the daintiest of table decorations and, as a broad belt edging to a large border, will remain flowerful from June to October, during which time they throw up thousands of their glorious blossoms. I must confess that I love the pure gold, orange yellows and pure whites far and away before the newer hybrid forms, the colours of many of which are too muddy and indeterminate to be pleasing.

The Splendour of Oriental Poppies.—The Oriental type is the most forceful and, at times, aggressive flower in all the June garden and truly wonderful are the glorious flesh pinks, crimsons, salmons, scarlets and apricots, all of which have a striking black and purple blotch at the base of each petal. These Oriental varieties need careful placing, for while so gloriously brilliant for a short time, the foliage soon becomes very shabby and draggled after flowering and one must group them behind some quick-growing, later flowering perennial, that can be tied out and staked so as to fill the gaping hole they leave in the border, and screen them when they are in the unsightly stage.

A little known form very seldom met in gardens is Papaver rupifragum, which flowers from June till September. It is a slender grower, rising to 2½ feet, with unusual orange buff hued flowers that, associated with light grasses, make a most attractive decoration. H. W. CANNING WRIGHT.

THE FLAMING GLORY OF THE PERENNIAL POPPY IN RELIEF AGAINST THE SOMBRE YEW

THREE SAXIFRAGES

That Should be Grown in Every Rock Garden

S. Boydii.—No hybrid at its coming gave greater joy than this yellow-flowered sort. None demonstrated more eloquently the potentialities of cross-breeding in these Saxifrages or raised to higher popularity the group as a whole. It has, however, not proved an easy plant to the cultivator. Having rock-loving species as its parents, it is a plant for the rocks in fissure or crevice where grit, disintegrated rock and a modicum of loam find a place and where comparative dryness is assured. Soil and soil damp it dislikes and is short lived when so circumstanced. In pot or pan it is surprising how long it remains good if grown in river sand or grit. It gained a first class certificate thirty years ago.

S. Boydii alba (see illustration).—From the name given it would appear that this is a variation of the original Boydii. As the plant, however, has nothing in common with it, whether in growth or flower, the name must be regarded as a misnomer. Far more probable that it is of the parentage originally attributed by Mr. Boyd to the yellow-flowered sort bearing his name. This was Burseriana and Rocheliana. Then if we conclude that the Rocheliana in the case was really its variety coriophylla, we have in these twain, I think, the materials which might go to make S. Boydii alba as we know it to-day. The plant, however, is good and desirable, vigorous of growth and large of flower. Its flowers are in two series, the earliest, solitary, stemless nestling in the heart of the rosettes, while later they are produced in sprays, two to four in a spray, the peduncles often 2 inches high. Gritty loam and good drainage.

SAXIFRAGA BOYDII ALBA.

S. Faldonside is a child of S. Boydii and far more beautiful, surpassing the parent in size, form and unmatched beauty generally. By common consent the uncrowned "Queen" of yellow Saxifrages. A more amiable doer than its parent it is more frequently seen and more abundant. Culturally it requires intelligent care and the conditions laid down for Boydii suit it well. Periodical increase from cuttings and absence of rich soils at the roots are good cultural finger posts. Despite a superiority that is not denied it has so far but received an award of merit, and that in quite recent years.

SAXIFRAGA FALDONSIDE.

The Hardiness of Habranthus pratensis

A Beautiful Plant of Reputed Tenderness which a Hertfordshire Reader Grew Successfully in the Open

ONE often hears doubts cast on the hardiness of Habranthus pratensis, and it is such a superbly gorgeous flower that I am very glad to be able to give an encouraging report of its behaviour here under open-air treatment. Two years ago I came by a very large stock of the bulbs, running into many thousands. I had never grown the plant before, and only knew that it was commonly classed as a hardy bulb, with nasty whispers haunting its reputation. I therefore acted on the principle which I always adopt with a plant which is new to me. I planted the whole lot out in open ground, in stiffish loam, without fuss, luxury or ceremony. If it stood the test, well and good, it was a plant for me. If it died, I should be saved from endless worry and trouble. As a hardy plantsman I have no use for the sort of "hardy" plant which is only hardy if you plant it in a warm corner of Cornwall and then put a greenhouse over it in winter. I refuse to court obituary complaints in my post. So out went Habranthus pratensis into long nursery rows, 3 inches or 4 inches apart in drills, and there it has stood the last two winters. The bulbs have more than once been frozen in, for although the last two winters have on the whole been mildish, we have had some very severe spells. Habranthus pratensis has stood the spartan test perfectly. We have lifted, sorted and replanted the bulbs, and the results are quite convincing as to their absolute hardiness in this cold neighbourhood. They have increased abundantly, not only in number, but also in quality. They flowered beautifully last summer. I incline to believe that all these nasty rumours about the plants hardiness have originated with folk who have never tried it, on the principle that it is "too good to be true" Certainly when one sees those graceful heads of Amaryllis Lily blossoms of vermilion-scarlet with ochre-yellow throats, carried on their 2-foot stems, it is difficult to believe that the plant *can* be hardy even in cold Hertfordshire. In fact, flowering in the nursery rows among the ruck of hardy herbaceous plants they looked almost like a practical joke, as though someone had come from the greenhouse and stuck a lot of exotics into the soil. So that in planting Habranthus for effect in the garden it would be as well to place it near something with the sort of character that will keep it in countenance—Yuccas, Montbretias, Funkias, anything with the right kind of romantic aspect.

Stevenage. C. E.

PERENNIALS for PRESENT PLANTING

How to Manage the Border and the Plants

IT is generally conceded, I think, that for the vast majority of herbaceous perennials and the greatest variety of soils there is no season of the year more suitable for planting than that of early spring. It is as true of the seedling as it is of the more established example, and equally so of that older type of the last named, for which division of the rootstock in conjunction with transplanting are essential if the plant is to give of its best. It is true, too, from the propagator's point of view, inasmuch as it is at that season of the year that the majority of herbaceous perennials, starting root and branch anew, also develop, if opportunity is afforded for so doing, a proportionate number of the latent eyes or buds which may be found about the bases of the stems, it may be of Torch Lily, Tufted Pansy, Delphinium, Michaelmas Daisy, Pyrethrum or many another besides. Left to themselves in undivided clumps, these same buds are either crowded out of existence altogether or go to swell that little forest of weakly growths more common, happily, in clumps of herbaceous border plants a decade or two ago than they are to-day. Thus it would appear that cultivators generally are moving in a right direction, and that amateurs, realising how to make the most of things, are also prepared to cultivate their border flowers on more rational lines than hitherto. In former times it was no uncommon thing to see great mat-like swards of the Michaelmas Daisy occupying a border, the nearly bare stems and inadequate floral display but the net result of starvation—the exacting toll of neglect. To-day we know that these same plants merit annual or biennial division and transplanting, giving some thirty, some fifty, some a hundred fold of their flowers, as the result of the cultivation bestowed. In principle, the same is true of other plants—Phlox, Sunflower, Helenium, Campanula, Day Lily and the like—and the measure of their success at flowering time will be also that of the cultivation—or lack of it—they receive; hence the desire for timely action.

Preparing the Border.—At all times a well-prepared border is essential to success. Such preparation is more easy of accomplishment in the case of a new border where trenching and manuring can be done in advance, and without such hindrance or interruption as is inseparable from a border not destined for complete overhauling. So much, however, might be advanced in favour of the latter, and so good the results, that in all cases where possible it is worth pursuing. All the same, there are many things—Phlox, Pyrethrum, Potentilla, Japanese Anemone, Delphinium, Day Lily and Pæony, to name but a few—that are infinitely better if left for two, three, or even a greater number of years, and to these the importance of a well-prepared border at the outset cannot well be overestimated. In the case of heavy soils, the addition of grit and leaf-soil will assist drainage, just as a free addition of lime will assist porosity and do other important work. For light soils the manure should be introduced low down, where later it may play the part of a cool retreat—a sponge—for the roots in the event of dry weather.

HERBACEOUS PÆONIES DO BEST IF LEFT UNDISTURBED FOR YEARS, HENCE THE IMPORTANCE OF THE RIGHT PREPARATION FOR PLANTING.

The Big Clump Fallacy.—Elsewhere I have written of the "Fallacy of the big clump," and it is worth repeating here. In short, the big clump of Pæony, Michaelmas Daisy, Lenten or Christmas Rose, Iris, Pyrethrum, or what you will, is to the planter a delusion and a snare; a youthful specimen is capable of much better work. The obvious reason of this is that the youthful plant has unlimited opportunities for development, while the big clump, with its score or so of crowns, can only develop a tithe of them and root fibres *pro rata*; hence the fallacy.

The Spade-Divided Clump is almost as bad as the last; plays "second fiddle" to it, in fact, in that it retains the feebler crowns of the plant, which, together with the woody portion inseparable therefrom, would be doing greater service for the garden by creating potash *à la* bonfire. Moreover, the spade as a tool for dividing plants is a cumbrous, ofttimes a dangerous thing. A strong pruning knife or a couple of hand forks are infinitely more safe in that either can be directed to any point of the plant's anatomy at the will of the operator. In this way solid clumps—Trollius or Pyrethrum—first bereft of soil by washing or otherwise, can be reduced to quite small divisions with impunity. So, too, can larger-growing subjects, as Iris lævigata and others. In the case of Flag Irises, all that the planter has need of is the most recently formed rhizome with its growing crown attached. The Michaelmas Daisies of the Novi-Belgii set separate readily with the hand, while those of the Novæ-Angliæ group, being more woody, are best wrenched asunder by means of hand forks. On the other hand, the closer-growing root-stocks of such as ericoides and cordifolius submit to careful division with a knife, and many other instances might be given. The whole object of division is reinvigoration, and the most youthful pieces—the fittest—are all the gardener need bother about, planting these with a free hand in groups to give immediate effect.

Some Useful Plants for Cutting.—There is ever a demand for flowers in the cut state, and the following is a selection: Single Pyrethrums Hamlet (pink) and James Kelway (crimson); double, Ne Plus Ultra (pale pink), Aphrodite (white) and Pericles (yellow); Asters, Amellus, ericoides Desire, cordifolius in variety and Beauty of Colwall; Irises pallida, aurea, Mrs. Darwin and Dr. Bernice; Galegas in white and mauve, white Everlasting Pea, Gaillardias, double and single flowered Gypsophila paniculata, Aquilegia chrysantha, Alstrœmeria aurantiaca, Campanula persicifolia in variety. Montbretias, Scabiosa caucasica, Lupines, Rudbeckias and Heleniums.

Now is a Good Time to Sow the Brilliant Salpiglossis

MASSED in beds or large groups in the borders in the most prominent positions, the Salpiglossis with its wonderfully veined and brilliantly coloured funnel-shaped blossoms is among the finest half-hardy annuals that we have. They respond in a very special way to any extra care expended on their cultivation, and it is often a surprise to those who have only seen mediocre examples to meet with magnificently branched specimens carrying dozens of flowers and rising to 2½ feet or 3 feet in height. To assure these early sowing must be practised; indeed, I have a friend who raises exceptionally fine plants, and these he sows in September. Excellent results, however, are ensured by sowing now, but no excess of heat must ever be used or the plants soon become drawn weaklings. Very sandy compost is desirable so as to minimise the risk of damping in the early stages. Salpiglossis are "miffy" plants and need care, especially while seedlings and when first planted out. Sow thinly in efficiently drained pans, and cover the seeds very lightly with soil and place in a temperature of 50° to 55° so as to induce rapid germination, but directly this has taken place remove them to a cooler temperature where they can make sturdy and steady progress. The main effort should

be directed to inducing them to form as much fibrous root as possible. When large enough to handle prick them out into pans or boxes 3 inches apart in a compost of two parts fibrous loam to one of coarse sand. This may seem an undue proportion of the latter, but the roots are easily injured or destroyed by excessive moisture and the sand assists in the production of more fibre. From the middle of April onwards they do best in cold frames, taking care, while ventilating these freely, to avoid chilling draughts. The aim from the seedling onwards is to produce stocky dwarf plants, but once they become at all drawn they might as well be destroyed so far as really good results are concerned. If an especially cold night occurs, mat the frame well up and do not remove this too early in the morning, though forced growth by means of a high temperature due to not opening the frames early enough must be avoided. Planting out should be done towards the end of May, choosing a bed in which the soil has been well enriched by the addition of plenty of manure and deep digging. The sunnier the bed the better, as this ensures greater warmth. A cool showery period is the best for planting, but if this does not occur, thoroughly drench the soil a couple of days previously; then plant, and water with a rosed can when completed. It pays to invert a flower-pot over each plant if the weather is sunny, removing this as soon as the sun is off the bed. Protection must be afforded against slugs, as these are particularly fond of young Salpiglossis, and where they exist in large numbers will completely demolish the plants in an incredibly short time.

CROYDON.

A New Strain of Early Tulips

Easily Forced and Better Colours

GREAT interest is being taken in a new hybrid race of Tulips that are likely to be extensively grown for forcing purposes, both in private and market gardens. At a recent meeting of the Tulip Committee, Haarlem Bulb Growers Society, Messrs. E. H. Krelage and Son showed five varieties of forced Tulips in pots. These Tulips are hybrids between Duc van Tholl and Darwin varieties and combine the earliness of the former with the colours and the longer stems of the latter. The flowering period outdoors is the same as that of the early single Tulips and they can easily be forced in the first week of January; some varieties were flowered in perfect condition, but with shorter stems, on December 20. The colours of the varieties shown were bright pink, salmon orange, maroon, cerise and brown with sulphur edge, but Messrs. Krelage possess a great many varieties in other shades. The first crosses were made in 1909 and have since been continued yearly.

These newcomers which, compared with the existing varieties for early forcing, showed great superiority, will doubtless have a splendid future, for a combination of early forcing qualities, new colours and good stems would mean a decided advance on all early forcing Tulips.

Bending Flower Stems are of High Decorative Value in the Garden

BY THE EDITOR.

THERE is something very attractive about plants with tall and graceful flower-spikes rising, it may be, several feet in height and waving freely in the wind. Generally speaking, such flower-stems, though slender, are so tough and wiry that they are never injured like the much stouter and stronger-looking stems of robust-growing plants. In the Wandflower (Sparaxis pulcherrima) the flowers are borne on almost invisible wire like foot stalks. One day in early August we saw this delightful plant in the height of its summer plumage in Mr. H. Avray Tipping's garden at Mounton House, Chepstow. It was not until then that we realised how very beautiful it could be in an English garden. There were several clumps, both large and small, growing in a warm, sunny border of mixed shrubs and herbaceous plants. Whether by accident or design we hardly know, but the foliage and flowers of the border plants and the neighbouring shrubs entered into a perfect harmony of colour such as one rarely sees. The feathery growth of Tamarix with its plumes of pink blossom formed a fitting companion to the rosy purple flowers of Sparaxis. The slender, arching sprays of Sparaxis have given to it the name of Wandflower. An old quarry near by was made gay with the pink plumes of Astilbes and bronze foliage of Rodgersias; while in the background was an immense clump of the American Smoke Tree (Rhus cotinoides) in full flower, producing a cloudlike effect above its handsome foliage, which, by the way, assumes a fine colour in autumn—a brilliant scarlet suffused with orange and crimson; it is unsurpassed for its magnificent colouring.

Mounton House in Rose-time presents a scene of unusual splendour, when pillars and pergolas are gay with the blooms of Dorothy Perkins and American Pillar. As the summer wanes the brilliant display of Rambler Roses gives way to the quiet beauty of the Wandflower and its well chosen companions.

This graceful Sparaxis was evidently quite at home among the Tamarix in a stony soil and sunny border. There was no question of its hardiness.

THE WANDFLOWER DANCES IN THE BREEZE.

for self-sown seedlings were springing up around the parent plants. It is well to know this, for the Sparaxis, which is a native of the Cape of Good Hope, has been tried in scores of gardens without much success, and, like other Cape bulbs, it is looked upon as a very difficult plant to manage in this country. Its peculiarities, whatever they may be, are satisfied at Mounton House without the slightest trouble. The slender, wire-like spikes were fully 6 feet long and bent over with the weight of their pendulous flowers. A steady breeze blowing up the Bristol Channel kept all the flowers swinging to and fro continually. They were dancing in the breeze, as restless as butterflies on the wing, and would not be induced to come to a momentary rest before the camera. The Wandflower is indeed an appropriate name for this delicate flower. Although the flower-stems are very thin and slender, yet they are so tough and strong that after a stiff gale, when other plants are unmistakably weather-beaten, the Wandflower remains unbroken, and it goes on swinging gaily in the gentle breezes after a storm.

A few notes on cultivation may be helpful to those who intend giving this charming flower a

trial. The bulbs should be planted either in the autumn or in early March. If planted later than March the bulbs fail to flower as well as they otherwise would do. A loose, light, loamy soil is preferred, and where the soil is naturally of a heavy nature the bulbs should be well covered with rough sand. Good drainage is essential, and a due south aspect should be chosen. It is a suitable subject for planting on the margins of shrubberies or along the water banks so long as the position is high and dry. A wet situation in winter is fatal. Sparaxis needs all the sun that we can give it in an English garden, and if the site is backed by a wall or greenhouse all the better. The bulbs should be planted from 4 inches to 6 inches deep and about 3 inches apart. It is a good plan to cover the soil with Bracken or dry leaves to keep them dry through the winter. When once established the plants resent being disturbed.

It should be mentioned that Dierama pulcherrimum is now regarded by botanists as the correct name for this plant, but in gardens it will always be known under the old name of Sparaxis pulcherrima. There is something truly exquisite about its graceful habit and refined flowers that makes the Wandflower worthy of close attention to those details in cultivation which will bring it to perfection.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Rock Garden Plants wintered in cold frames may now be planted out, making a beginning with the hardier ones. As far as possible, each subject should be considered separately as to its requirements of soil and position. Should the planting be freshly carried out either in wall or rock garden, an effort should be made to so arrange such planting that a sufficient number of plants of each variety are used to give a good effect, as too often, I think, rock garden planting is "scrappy," if I may use such a word.

Standard Plants of Heliotrope, Plumbago and other plants which may be so grown for summer bedding should be encouraged now to make good healthy growth, by potting or top-dressing.

Gladioli.—The earliest corms may be planted in well-enriched soil as soon as activity is noticeable. Where Gladioli are to be used after spring-flowering plants and bulbs, the corms must be kept at rest as long as possible, by keeping as cool as it is safe to do so.

Rose Pruning.—Unless checked by sharp frosts, this work may be taken in hand as soon as convenient, leaving the Tea Roses until the last.

Seeds.—According to requirements and weather conditions, sowings may now be made of a great number of the hardy annuals. Some resent being moved, so it is a great advantage to be able to sow where the plants are to remain and then thin out the seedlings as desired. As to varieties and culture, I need only refer readers to THE GARDEN for the last few weeks.

The Kitchen Garden.

Cauliflowers which have been growing in 3-inch and 4-inch pots from autumn sowing must be well hardened off and planted on a warm border at the first opportunity. Protection, by way of evergreen boughs, should be given for a time. Cauliflowers delight in a well-enriched soil which allows of a good free root run.

Sowing.—This may be carried out now more extensively with safety. A good breadth of Broad Beans and Peas should be made where there is a large kitchen demand. Choose a somewhat cooler situation for the former than was chosen for the earlier sowings. In a warm position a small sowing of Beet may be made; also a further sowing of Carrot, Turnip, Spinach, and a small one of Radish and Lettuce outdoors.

Planting of early raised crops of Broad Beans and Peas must be attended to before the plants become leggy, afterwards drawing a little soil up round the plants as a protection; also protect with evergreen branches if frosty winds are experienced.

Fruit Under Glass.

Melons.—Encourage the plants to make a clean, free growth. The training and stopping of the young shoots is often carried out somewhat differently, but with equal success, and, after all, the latter is the most important point. As a general guide the growths may be pinched at one leaf beyond where the fruit is, and all subsequent laterals and other unnecessary shoots kept pinched or removed to avoid overcrowding of the chief wood. The fruiting stage having been reached, pollination of several flowers should be carried out the same day if possible, and then the fruits swell away evenly together. Two or three fruits I find is generally sufficient for early plants to carry. During the flowering period a drier atmosphere should be kept, but a "set" having been obtained, the syringe can be freely used again on all bright days. Make every possible use of sun heat, for Melons revel in heat and moisture while swelling their fruits.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Planting Seakale.—Young thongs which have been in the plunge for a period may now be planted in well prepared and generously manured ground, as Seakale enjoys a rich root-run. Plant in rows about 18 inches apart, and allow 1 foot between the plants.

Jerusalem Artichokes.—This nutritious and accommodating winter vegetable should be planted in a sunny position so that good results may be obtained, choosing a part that is sheltered from strong winds. Plant in rows 2½ feet apart, allowing 1 foot between the tubers and about 5 inches deep. The work should be done now provided the ground is in good condition.

Globe Artichokes.—Should the weather remain favourable the protecting material may be cleared away and a generous dressing of manure worked in about the stools so that vigorous growth may be obtained, filling up any blanks with off-sets.

Tomatoes.—Early lots will now be ready to move into their fruiting pots or borders. Examine the soil for wireworm, and if this pest proves troublesome insert small pieces of Carrot between the plants. This proves a ready bait for them. Examine the pieces regularly until the plants are well under way.

Mushrooms.—The difficulty in obtaining the necessary manure has vetoed the growing of Mushrooms in many places, but where convenient, beds should be made up as fast as the manure is prepared. The beds should not be allowed to suffer through want of water. A thorough soaking should be given instead of surface sprinklings. See that a steady heat is maintained, as a fluctuating temperature generally results in failure. When watering use tepid water.

Fruit Under Glass.

Early Peaches.—These will be swelling freely now, so disbudding and thinning should be attended to, care being taken to encourage young growths to take the place of old or worn-out branches. See that the trees do not suffer from lack of water. In the case of trees carrying heavy crops, a watering of liquid manure occasionally will be of great benefit. Keep the syringe going freely during fine weather so that red spider may be kept in check.

Vines.—Attend carefully to Vines that are well forward, stopping the laterals at a couple of leaves beyond the bunch, and have all superfluous growths removed. Vines that are in flower will benefit from a tap on the rod so that fertilisation may be assisted. Late vineries should be kept as cool as possible meantime until the buds begin to move, when heat may be increased.

Plants Under Glass.

Cannas.—These interesting subjects, although not used very much for bedding purposes in the North, are always appreciated for greenhouse culture. After being partly dried off they will now be showing signs of growth, so should be split up and started in a brisk heat, removing to cooler quarters after reasonable growth has been made.

Repotting.—Hydrangeas, Fuchsias, Pelargoniums, Tracheliums and other subjects for the greenhouse should all receive any necessary repotting at this time; while Palms, Draceanas and Crotons should also be attended to.

The Flower Garden.

Polyanthuses.—If strong plants are to be had for bedding purposes in the autumn, a sowing should be made under glass without delay, as they require a lengthy season of growth. Immediately the seedlings are large enough to handle they should be pricked off into boxes and later planted out in nursery lines in the reserve garden. The Munstead strain for size and fragrance is very fine, and has always given great pleasure when grown here.

Border Carnations.—In northern gardens it is customary to winter these in frames and plant out during March, so this should be done immediately the state of the ground permits. Border Carnations enjoy plenty of wood-ash worked into the border, while a dusting of soot round the plants wards off slugs. Plant from 12 inches to 14 inches apart, according to the habit of the particular variety. Where seedling Carnations are grown these should also be transferred from the nursery garden to their flowering quarters.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.).
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

VIOLAS TO COLOUR (Cantab).—White: Swan, Snowflake. Mid-yellow; Mrs. E. A. Cade, Margaret Wood. Pale blue; Fred Williams, Bridal Morn. Dark blue; Blue Rock, Admiral of the Blues. Crimson. Crimson Bedder. Cream and primrose; Marchioness, Peace. Dark yellow: Moseley Perfection, George Palmer. Medium blue: Stanley Paul, W. H. Woodgate. Pink is beyond us. J. B. Riding is of rosy mauve colour and a fine bedder; Edged varieties; James Pulling, Kathleen, Lark, Sunbeam. Curiously, our correspondent does not ask for mauve shades, though some are very beautiful. Maggie Mott, Ophelia and Mauve Queen are some.

TREES AND SHRUBS.

SUITABLE TREES TO FORM A HEDGE (R. A. H. W., Essex).—A very good informal hedge could be made to screen off the garden from the tennis court with Pyrus floribunda and P. f. atrosanguinea. Trees could be planted 8 feet apart, and they would soon grow together. They could be grown without pruning if there is plenty of room available. Trees branched low on the stem should be procured. Trees may be obtained from either Mr. Anthony Waterer, Knap Hill, Surrey, or Mr. Notcutt, Woodbridge, Essex.

CAMELLIA ATTACKED (B., Seaton).—The black deposit on the Camellia leaves is no doubt a fungus of the genus Fumago. These fungi grow only upon the honeydew deposited by aphis or by scale insects, and our correspondent will probably find that the white Camellia is attacked by the one or the other of these pests, which are probably the cause of the failure to flower. Attention to the destruction of these insects by spraying at a suitable time with nicotine wash or with Katakilla would doubtless preserve the plants, and clean and improve the flowering. Possibly the Camellia is overshadowed by trees which are attacked.

THE GREENHOUSE.

CALCEOLARIA AND SALPIGLOSSIS (Interested).—As a groundwork for the Salpiglossis, Sweet Alyssum or Mignonette would be suitable if a flowering plant is needed that would not clash. Pot the Calceolarias in 4-inch pots at once in loam, leaf soil and sand. Give them cool greenhouse treatment and use the syringe freely to keep the atmospheric conditions moist. Dry arid conditions are abhorrent to these plants. Later give them 5-inch or 6-inch pots. We should prefer them as bush plants. Standards are not usually satisfactory and much flower beauty is lost in time in forming them.

THE VINERY AND PLANTS TO GROW IN SAME (G. W. G., Berks.).—Our correspondent wishes to know what plants and ferns can be cultivated in a vinery *without any risk* of damage to vines from insect pests. If our correspondent means such plants as are commonly grown for the decoration of the conservatory and the house, our answer must be there is none, unless an experienced and vigilant gardener is in charge, and even then the risk is great. Even the Fern, innocent as it may seem, is one of the worst culprits, scales and thrips finding a congenial and safe place among its fronds in which to hide and thrive. If the vine is clean and free from insect pests, let well alone and keep out all plants likely to do it harm. On the other hand, the vinery can be made most useful in spring of the year for gently forcing into bloom many useful plants as flowering shrubs: Lilacs, Spiræas, Laburnums, Rhododendrons, Deutzias, Dielytras and many others, also bulbs in infinite variety, as well as for the raising of vegetable plants from seeds for securing early crops of Lettuce, Celery, Beetroot, Beans and Peas and many others. Excellent Grapes were grown and ripened during the war without a shovelful of coal. The secret of success in this method of growing the vine lies in the husbanding of every ray of sunshine by the exercise of judgment and care in ventilating. For instance, in the first place, do not give any front air at all until the second week in April—depending on the top ventilator to keep the temperature sufficiently down, say to 84° Fahr. in the shade, middle of the day maximum—and closing the ventilator at 3.30 p.m. on warm, sunshiny days. This will secure a fine growing temperature well into the night. Syringe the walls and borders of the vinery copiously at the time of closing the ventilators, but not the vines.

A BRIGHT DISPLAY OF CROCUSES UNDER TREES IN PECKHAM PARK, LONDON.
From a photograph taken on February 26.

ROCK GARDEN.

PLANTS FOR A SHADED ROCK GARDEN (D. R., Carnoustie).—The rock garden is not well circumstanced for flowering alpines, particularly if the shade is caused by buildings or trees. To such plants sun is as life. Those now given, therefore, should be planted where the fullest measure of sun reaches them, arranging them in threes or more in order to obtain effect. Any of the Hepaticas (Anemone Hepatica) in red, white and blue shades, A. angulosa, Campanula muralis, C. Stansfieldi, C. pulloides, C. turbinata, Phlox subulata atropurpurea, P. s. Vivid, P. s. Sprite, P. s. Nelsoni, Primula rosea, P. Bulleyana, P. denticulata, P. d. cashmiriana, P. d. alba, P. Beesiana, P. Sieboldi in variety, Ramondia pyrenaica, any of the mossy Saxifrages, as S. Clibrani, S. sanguinea superba, S. Rhei, S. muscoides atropurpurea, Christmas and Lenten Roses in the more shaded parts, Saxifraga megasea purpurea, S. Delavayi, S. oppositifolia in variety, Silene alpestris, Veronica rupestris, Corydalis nobilis, C. thalictrifolia and Cyclamen neapolitanum. Snowdrops, blue wood Anemones and other bulbous or tuberous-rooted plants might be introduced in autumn, and with such Primroses as Miss Massey, Altaica and the single and double forms associated with Hart's Tongue, Oak and other Ferns, a pretty corner should result.

FRUIT GARDEN.

RASPBERRY LLOYD GEORGE (Purley).—This is a heavy and large summer-fruiting variety, and should be treated as a summer Raspberry; it will give its successive fruit on the terminals of young growths. At Cardiff in July there were lateral growths with ripe fruit and panicles of flowers from the tops of young growths. It will give a succession of fruit till frost destroys the blossom. The flower-buds are showing now (February 24). If this variety were grown where frost was not it would fruit continuously. It has been grown at Corfe Mullen for seven years and has always fruited in the same manner.

PERPETUAL FRUITING RASPBERRY (Rustic).—We take this to be a form of the summer-bearing Raspberry. It is nothing unusual for the ordinary summer Raspberry to occasionally bear some fruit continuously to the autumn, but the quantity so borne is of small value. We think our correspondent will be on the right side in treating it as a summer fruiting variety. No doubt strong canes will bring forth a good crop, which may be partly perpetual. Autumn-fruiting Raspberries are a distinct section. They bear as heavy crops as do the summer ones, but the flavour and quality of the fruit cannot be compared. In pruning them, the canes of last year's growth are cut down to the ground level in February. The fruit is borne on the young canes, the growth of the current season. Apple Ellison's Orange in its season is one of our best dessert Apples. We agree with our correspondent as regards the value of Fearn's Pippin as a later dessert Apple. It is one of our oldest and best known sorts. It has of late years been ousted out of its high position by so-called new sorts of less merit.

TWO AND A HALF ACRE PLOT OF GRASSLAND FOR FRUIT-GROWING AND POULTRY-FARMING (White Wyandotte).—Our correspondent does not say what depth of loam there is overlying the chalk subsoil. Presuming it will be between 18 inches and 2 feet, most hardy fruits trees would succeed well in it. It would be ideal for the growth of all stone fruit, such as Plums and Cherries; also Apricots trained against the cottage walls, south and west. If desired, the one and a half acres to be given up to poultry could be planted with standard trees of Apples and Plums. The poultry would not harm the trees so long as they are firmly planted and well secured to strong stakes and the bare ground round their base protected against scratching by pegging down branches of Thorns, Gorse or any other similar material. (The standards should be about 5½ feet high). The Apples should be planted 24 feet apart in the row, and the same distance allowed between the rows. Standard Plum trees should be planted between the Apple trees all the way through. This would leave ample space for the poultry as well as the trees. A portion of the ground should be allocated for the growth of vegetables and bush fruit. This should be trenched and the turf dug in, grass side downwards. It should be wired in round its sides, say, 6 feet high. Cordon Gooseberries, Red and White Currants, Loganberries and Cherries could be trained to the wired sides and bush fruit and vegetables in the centre. Herring netting could be placed over the top to protect fruit from birds when ripe.

REMOVING GREASE BANDS FROM APPLE TREES (Brookside).—Do not remove the bands until late in spring. Burn as soon as removed. See there are no pests left under the band or on the tree trunk below it.

PLANTING A GARDEN OF ABOUT A QUARTER OF AN ACRE WITH FRUIT TREES (H. R. C., Sussex).—How about shelter if the Laurel hedges are removed? If our correspondent is satisfied on this point, remove them as early as possible and plant the ground with single cordons of Apples and Pears, Gooseberries and Currants. The ground will be poor after Laurels, and should be deeply dug and generously manured with well rotted stable or farm manure before planting. If the cordons are trained vertically, the trellis would need to be 6½ feet or 7 feet high. Rather let the trees be trained obliquely at an angle of 45°, running from north to south, and the cordons trained in the same direction. Cordon trees trained and grown in rows succeed very well. They should be planted 16 inches apart in the rows, the rows being 6 feet apart. The following succeed well when grown as cordons: Apples, Pears, Gooseberries, Currants (red and white, not black), Raspberries, Loganberries, Blackberries. The Currants and Gooseberries would be cordons and planted the same distance apart as Apples. The Raspberries, Loganberries and Blackberries should be trained fan-shaped, spreading out the branches. The Raspberries should be planted 4 feet apart and the Loganberry and Blackberry, 5 feet. Larger fruit and better quality Apples and Pears are grown on cordons than on bushes, because cordons are exposed to a larger diffusion of sunshine, warmth and air. But taking one year with another we do not think our correspondent would obtain a greater weight of fruit per acre than in the case of bushes.

MISCELLANEOUS.

SEASHORE SAND AND CLAY SOIL (E. C., Hants.).—A moderate amount of sand mixed with clay soil has a decided advantage in a mechanical sense, by making the latter more porous and therefore easier to work, and also in the sense that rain, warmth and air have a freer access into the soil, with the result of adding much to its fertility. As long as it is not taken from a tidal area, where it is saturated daily with brine, we think a moderate application of sand from dry banks to clay soils would be beneficial to the growth of Potatoes (seaweed is) and all the Cabbage tribe, also Asparagus.

THE DESTRUCTION OF DAISIES ON A LAWN (K. E. T.).—Sulphate of ammonia may be mixed with fine sand and sown over the lawn in moist, but not very wet weather. This ought to kill the Daisies. Sulphate of ammonia can be purchased from any good seedsman or horticultural sundriesman or it may be obtained from a gas works.

NAMES OF PLANTS.—C. W., Grayshott.—Sempervivum arboreum.——W. A. B., Northampton.—Sprekelia formosissima.——I. S., Kelso.—Garrya elliptica.——E. T., Herts.—1, Thuya dolabrata; 2, Anchusa sempervirens; 3, Cupressus obtusa, var. nana.——G. H. P., Staffs.—Pittosporum tenuifolium.

SOCIETIES

THE FRENCH CHRYSANTHEMUM CONGRESS, 1921.

OWING to interruption by the war, the Annual Congress, organised by the Société Française des Chrysanthémistes, have not been held since the one in Ghent in 1913. There is a feeling on the part of the organisers of the 1921 Congress that the renewal of these Congresses should be signalised by an International re-union of Chrysanthemum growers and admirers. The town chosen is Le Mans, where the local societies have agreed to join hands in making the Congress and accompanying show a great success. The prize list is a liberal one. A very friendly desire has been expressed by those who have the details in hand that English growers of Chrysanthemums should be represented and a very cordial welcome is promised. If any readers of THE GARDEN are interested I shall be glad to give any further particulars that may be required.—C. Harman Payne, Foreign Secretary National Chrysanthemum Society, 195, Wellmeadow Road, Catford, S.E.6.

"LE CHRYSANTHEME."

THE January issue of this publication is unusually interesting. From it we learn that the Société Française des Chrysanthémistes is gradually but surely regaining its pre-war condition of prosperity. We notice the membership roll is now 723 inclusive of seventy affiliated societies. The new Momméja prize of 200frs. for the encouragement of new seedling raisers has been awarded to Madame Martin, who gained fourteen first-class certificates during the past season. Among other items of news are the particulars of the twenty-first annual Congress of the Society to be held next November. It is very regrettable that the proposed issue of the "Carnet des Couleurs" cannot at present be undertaken owing to increased cost of paper and printing. This proposed work is really a pocket edition of the "Répertoire de Coleurs" published some years ago under the auspices of the Society. A list of the best varieties shown at the last Paris Show reveals the fact that they are mainly varieties of English origin.

TRADE NOTE.

WHELDON AND WESLEY, LIMITED.—Readers interested in old botanical and horticultural books may like to know that the firms of John Wheldon and Co., of 38, Great Queen Street, W.C., and William Wesley and Son, 28, Essex Street, Strand, W.C., have amalgamated and are formed into a limited liability company.

PUBLICATIONS RECEIVED.

"The Handy Book on Pruning, Grafting and Budding," by James Udale. Published by W. and H. Smith, Limited, Evesham; price 2s. 6d. net.

"The Journal of Pomology," February, 1921; edited by E. A. Bunyard, F.L.S. Published by George Bunyard and Co., Limited, Maidstone; price 3s. 6d.

THE GARDEN

No. 2574.—Vol. LXXXV.] [March 19, 1921

NOTES OF THE WEEK

In our New Year's Number we expressed the opinion that this year would prove to be the turning point in the post-war development of gardening and announced our intention of doing all in our power to assist that development. It affords us considerable pleasure, therefore, to be able to state that signs are not wanting that this forecast is already being rapidly fulfilled. This is a most happy augury for the future. An exceptionally large number of new readers have been added to The Garden, and apparently many of these were not previously readers of any gardening paper. They are all the more welcome for that very reason. The novice is worthy of every encouragement, and it is our desire to help beginners and yet at the same time to interest the advanced horticulturist as far as it lies in our power to do so. Our columns are always open to suggestions from readers, who should not hesitate to ask advice on gardening difficulties, and in turn give to others the benefit of their experience. Expressions of opinion on matters relating to all branches of gardening are welcomed : it is fresh eyes that so often see things of special interest. As our issues devoted to annual flowers and vegetables have gained for us many new friends and warm congratulations from old friends, we hope that the numbers we are issuing on perennials will further interest the ever enlarging circle of readers. Our programme for the future is a most attractive one, and we hope shortly to make some interesting announcements to our readers.

PRIMULA DENTICULATA illustrated on this page is one of the most beautiful of all the earlier members of the Primula family. The large globular heads of flower, pale lilac in colour, remain in good condition for an unusually long time, while it has the advantage of being truly perennial. It appears to the best advantage against a slaty grey rock, on the shaded side, which throws the handsome foliage and flowers into strong relief. The variety alba is extremely attractive and succeeds splendidly as an edging to a shady border, where the foot-tall flower stems are produced very freely until the end of May. Cashmeriana rubra is the strongest coloured form, reddish violet, but not so beautiful as the type. Seeds sown in pans in a cold frame during spring, and planted out later in summer, will give flowering plants for the following year, these re-appearing with renewed vigour year after year

The Pentstemon.—In the red soil of Scotland and the Midland counties no plant succeeds better than the Pentstemon, and there are very few to equal it as a border plant. Its position, whether in shade or full sunshine, seems to make no difference either to the beauty or abundance of the flowers it produces. Some of the scarlet, crimson and purple varieties have pure white throats which enhance their charm. Like other herbaceous plants, Pentstemons are increased by dividing the roots, an operation that is best done at the beginning of April—sooner or later, according to season. Cuttings may also be made of the lateral shoots when they are about 4 inche

A FREE FLOWERING FORM OF PRIMULA DENTICULATA.

A Beautiful Early-flowering Shrub.—In spite of the fact that Parrotia persica was introduced into this country as far back as 1848, it is very seldom found in gardens. It is a very attractive plant in February and early March when whole branches are profusely furnished with flowers, the crimson-tipped stamens of the male blossom being beautiful and uncommon. Although perfectly hardy, it benefits if sheltered by other trees from the cold winds. Apart from its attraction at this season of the year, it is one of the most ornamental of foliage plants during the autumn.

Ornamental Grasses for Cutting.—There are a large number of beautiful grasses that can be sown in the open ground at the present time

value for mixing with other cut flowers, or if cut before they are fully developed they may be dried, when they will be found excellent for mixing with everlasting flowers for winter decoration.

Pruning Ivy.—Few plants are so generally serviceable as varieties of Ivy for covering a wall, for clothing bare places under trees, or for hiding unsightly objects. Ivies may be planted now, and if established plants in pots can be obtained so much the better, as they grow straight away without a check. There are a number of varieties to select from, and although the large-leaved kinds grow quickly, the smaller-leaved varieties are usually preferred for most purposes. To keep Ivy bright it should be cut over once a year to remove the old leaves. This is best done now, for although Ivy can be cut at almost any time during the winter, by leaving it until the present time it soon becomes furnished with new leaves and therefore does not remain bare so long.

Planting Potatoes.—March and April are the best months for planting Potatoes. There is no doubt that close planting is a source of disease and poor crops. The following are safe distances to plant: Early varieties, 1 foot from set to set. 18 inches to 2 feet between the rows; second varieties, 12 inches to 16 inches from set to set, 2 feet to 2½ feet between the rows; maincrop. 18 inches from set to set, 3 feet between the rows

FORTHCOMING EVENTS

March 22.—Royal Horticultural Society's Fort nightly Meeting. Lecture at 3 p.m. by Mrs. Arber on "Some Early Herbals"

GLADIOLI FOR A DISPLAY IN LATE SUMMER

The Gorgeous Sword Lily Should be Planted Within the Next Few Weeks

THE PINK BUGLE LILY GLADIOLUS (WATSONIA ROSEA).

GLADIOLI GIVE DIGNITY TO THE LATE SUMMER BORDER.

GLADIOLUS AMERICA, COLOUR SOFT ROSE.

WHEN one thinks of the tens of thousands of the sons of men who take joy in their gardens, it is amazing that the Gladiolus should so frequently be overlooked at planting time. Too formal, too stiff for real decorative effect, is the only opprobrium I have ever heard levelled at this most lovable flower. Probably, too, some varieties deserve such censure, just as some Delphiniums do, but the Primulinus hybrids have utterly routed criticism on that score and in a few years time growers will have an almost infinite variety of sorts to choose from, and prices will be within anyone's reach. Anyway, there is hardly a plant in the garden that will do so much for itself without attention. There is, indeed, practically nothing for the cultivator to do but to plant the corm, and in summer provide a stake to protect the lengthening spear of green from the buffeting of winds. But a good site, with sunshine above ground and well prepared soil beneath, are necessary for good results. If the soil is heavy, good drainage should be secured, and the corms planted about 3½ inches to 4 inches om the surface. In light ground 5 inches to 5½ inches is not too deep. It is well worth while taking the trouble to surround each corm with silver sand and crushed charcoal or wood ashes. This ensures a clean, healthy growth and very largely prevents wireworm and other pests from molesting the corms. The better class Primulinus hybrids make exquisite pot plants for the conservatory or cold greenhouse. For this purpose use good soil, an unctuous medium such as is used for potting Carnations is very suitable, and put the corms in deep enough to be covered by about an inch of soil. Four corms to an 8-inch pot or five in a 9-inch make a fine show. The pots should be sunk in ashes to the brim for a few weeks to encourage strong root action, though this is not absolutely essential. The Gladiolus likes a moist atmosphere, especially in hot weather, so the syringe should be freely used at such times.

J. L. Gibson.

In days when "the charm of the old world garden" is a phrase that is more freely used than understood, it is interesting to contemplate sometimes how ineffably dull some of those old world gardens would appear to us to-day. There may be, indeed there is, "In the things that Time hath bent, a spirit's feeling." I do not think, however, that an unlimited sensation of ghostly touch would be sufficient compensation for an exchange of the garden Gladioli of even one hundred and fifty years ago with those of to-day. At that time we are told "There is but one species common to English gardens, out of which are many eminent varieties." As these "many eminent varieties" resolve themselves into "Common red, common purple and common white, with flowers on one side of the stalk," and ditto with "flowers ranged in double series," there would appear to be nothing very exciting or interesting among the Corn Flags or Sword Lilies of that day.

THE PARENT OF A NEW RACE OF GLADIOLI (G. PRIMULINUS).

It was M. Lemoine about 1840 or 1841 (both famous for things now obsolete—penny postage and the Crystal Palace), who gave the first impetus towards popularity of these beautiful garden flowers.

It was about this time that he introduced the race known as gandavensis, although the actual work of hybridising G. psittacinus with G. oppositiflorus was not his own. Purity of colour was the dominant characteristic of this race, which is still as popular as ever. For forty years it held its own, and again the firm of Lemoine came to the fore with a new race, evolved by the introduction of the blood of another species, G. purpureo-auratus. These were called Lemoinei, and are characterised by beautiful blotches, often in distinct contrast to the flower itself on the lower petals. It was among these there first appeared the violet and purple shades typified by Baron Joseph Hulot. At first many of the flowers in this race were comparatively small, but the habit was, and remains to-day, among the most graceful.

By crossing this race with G. Saundersii a new type was produced, again by the same firm, and sent out as nanceianus. In this many of the varieties are

to suffusions and veinings and are usually found on cream or pure white throats.

Since then progress has been rapid and international. Childs and Groff in America, and Kelway in England, have each contributed largely to the improvement of the genus. Incidentally a great deal of distinctive characteristic has been lost, and although the varieties are generally broadly divided up into Lemoinei types, gandavensis types and so on, the terms have little meaning in the case of most of the best sorts. America in particular has made giant strides in the production of beautiful forms, and colours undreamt of twenty years ago are common to-day.

Among the hybrid races perhaps the most distinctive to-day are the primulinus hybrids. The type, Gladiolus primulinus Maid of the Mist is a charming species, with clear yellow flowers. The upper petal forms a protective hood over the stamens. This characteristic is said to be the result of evolutionary adaptation to environment, in that the plant was discovered growing in the mists of the Victoria Falls and that nature provided the hood to protect the pollen from the damp. The results of crossing this with the Lemoinei and other races was to produce an intermediate colour group in soft shades of buff, orange, flame and many indefinite and indescribable tints that are infinitely pleasing. What is more, in most of these the hooded upper petal has not been sacrificed.

One of the chief values of the Gladioli lies in the opportunity they offer to provide autumn colour in the flower border. One so frequently hears the regret expressed that the dominant colour in the late summer and autumn border is yellow. There is no excuse for this with the wealth of colour that exists among the Gladioli of to-day. It is a bold assertion, but a true one, that every colour, tone or shade that can be found among the May-flowering and Darwin Tulips can be found in the Gladiolus. There is no colour scheme of which the garden is capable that cannot be produced with them, and among them can be found shades that will offer contrast or harmony with every other flower in the borders at the same period. By planting at intervals from early April on to the latter part of May, a succession of flower can be obtained that will provide colour from late August to the end of October, and last season some of the late-planted primulinus types lasted well into November.

It is quite impossible to enumerate all the best varieties, there are so many, but there are a few that should always be planted. No one, for instance, would think of leaving out the fine old scarlet Brenchleyensis, or the now equally well known pink, America, and a few others of equal merit—without going into the range of the highly priced novelties—are Baron Joseph Hulot, violet purple; Blue Jay, an indescribable pale purple, with a good deal of white in the throat; Dawn, pink, with claret throat; Mrs. Francis King, [illegible] scarlet; Magia, pale yellow, with blush tint on petals; Flora, soft yellow; Europe, pure white; Liebesfeuer, coral scarlet; Loveliness, cream, yellow ground, suffused apricot; War, deep blood red; Halley, salmon pink, with white and red throat.

Lynbridge Wells. G. Dillistoni

Near Relatives of the Gladiolus

The Beautiful Bugle Lily or Watsonia

The Bugle Lilies are related to the Gladioli and the one illustrated, viz., Watsonia rosea, has been described and figured by some botanical authorities under the name Gladiolus pyramidalis. It is a very pretty species, growing over 4 feet in height, with bright rose flowers freely disposed on branching spikes. Perhaps the best known Bugle Lily in cultivation is Watsonia alba, otherwise known as W. Ardernei. The Bugle Lilies are natives of South Africa and are comparatively easily grown. It is to be hoped that they will become more widely known, as they are admirably adapted to general garden cultivation, as well as for decorative purposes in pots. For growing in open borders successional plantings during spring will result in a flowering period from July to October. They are admirable for association with clumps of Phloxes, the two flowering together with pleasing effect. When planted in heavy soil it is advisable to lift the corms after flowering drying them well and storing as in the case of choice Gladioli, replanting in the spring. On light soil they may remain out during winter in safety if a light covering of bracken is provided should the weather be hard and frosty. Bugle Lilies are almost certain to thrive and flower well in a soil that suits the Wand Flower or Sparaxis. H. C.

A MAGNIFICENT BORDER OF GLADIOLI AT WISLEY.

ROCK PINKS

These pretty little Pinks, easily grown from seed, are interesting to watch for desirable variations as well as for their own sake. They are hybrids of a number of species, such as D. caesius, plumarius and superbus. They may be single or double; the greater number are richly fringed at the edge and sweetly scented. They vary in colour from pure white to deep pink, and many have a well coloured dark blotch at the base of the petals. They are capital for use in a sunny rock wall where they form hanging sheets of leaf and bloom, often a yard or more in depth, though some of them are more tufty in habit. They are also good as edgings or in any kind of rockwork, always in full sun and preferably in a chalky soil. G. J.

Wiring Old Garden Walls

Many readers may, like myself, have old worn-out walls and be desirous of wiring them, but who, having at different times read the disastrous accounts of injury to the branches of fruit trees, may be deterred from using wire and go on with the old nail-riddled walls as usual. The garden walls here are all built of rubble limestone, which is most uneven, many of the blocks being from 12 inches to 18 inches thick, and no two stones in the whole of the walls of the same shape and thickness. A nail might be driven into ten places before a hold could be got, and thus labour lost and work badly done. I have repaired over 700 yards in length of these walls, which are from 9 feet to 12 feet high, and wired them with No. 12 galvanised wire with the most satisfactory results. I will now state how I proceeded. When the leaves drop in autumn the trees are carefully loosened from the wall and the branches tied in bundles to stakes, so that the surface of the wall may be free for repair. All the large holes and uneven places are well filled with mortar made of good quicklime and forge dust; this makes a capital tough mortar and, being dark, is not conspicuous. Galvanised eyelets are then driven half their length into the wall, and in straight lines about 7 feet apart and 8 inches from line to line. An iron bar with holes 8 inches apart is fixed at about every 300 feet. These bars are well fastened to the wall with strong brads to which the wire is fastened and strained to the second bar, 300 feet being quite enough to tighten with an ordinary wire strainer. These bars need not be more than 1 inch by half an inch thick. I then make a very thick wash with quicklime, a little lampblack and tar to tone down the colour; this is then well rubbed over the wall, filling every nail hole and crevice. This thoroughly destroys all insect life. The brush we use is the stiff kind used for tarring. The handle is about 4 feet long, so that the workman can use two hands, and thus work the stiff mixture into every crevice. Since I have used this lime and tar mixture on the Cherry walls the black aphides have given very little trouble. After the limewash is dry I then thread the wire through the eyelets, fasten to the end bar, and strain to the second moderately tight; the eyelets are then driven close into the wall. In tying the trees to the wire we pass the matting once around the wire before tying the branches. This is necessary to keep the shoots in place, and may prevent the branch from coming in contact with the wire. I have Apricot, Peach, Cherry, Fig and Plum trees trained on galvanised wire with the most satisfactory results, and I think where evil has happened is in consequence of branches being fastened too tightly to the wire, and an obstruction has been caused to the sap and injury

County Cork. C.

THE BEST LUPINES FOR FLOWER BORDERS

A Greater Variety of Colours is Now Obtainable

PROBABLY no hardy garden plant is so well known and so generally cultivated as the perennial Lupine; especially does this remark apply to the section known as polyphyllus; this is truly herbaceous and is one of the few herbaceous plants that will flower satisfactorily from seed sown the same season; this it will do if sown out of doors in March or April.

The plant itself is ornamental in appearance, having long stemmed leaves, each of which is divided into a dozen or so narrow leaflets. The pea-shaped flowers are gracefully arranged in whorls on long elegant tapering spikes often 2½ feet to 3 feet in length. It requires little imagination to realise that an established plant bearing from twelve to twenty spikes, all in bloom at once, presents a very stately and imposing appearance.

Until within recent years blues, whites and bicolors (blue and white) represented the range of colour to be found in this family of plants. A few years ago, however, a rose coloured variety made its debut in the garden of a wayside cottage. Happily it was discovered and appropriated by a fortunate member of the nursery trade.

The introduction of this rose coloured variety marked an epoch in the history of Lupinus polyphyllus, as from that date the range of colour widened, until at the present time there is practically no colour or shade of colour unrepresented in the family. Some of these are selfs, *i.e.*, wholly one colour, while others are bicolors and tricolors, some have colours and shades of colour so associated as to defy description and try the palette and proficiency of the most gifted floral artist.

There is no need to elaborate or detail the wonderful variety of colourings now present in these Lupines, though a bright scarlet and a buttercup yellow may not as yet have been discovered.

Readers will be well repaid if they keep an "open eye" when visiting the leading horticultural exhibitions this season. Lupines will be largely in evidence. Several firms of high standing have varieties of more than passing interest to bring before the notice of those "who love a flower show."

A selection that will please the most fastidious is as follows: Moerheimi (peach, dull white wings; this is quite a dwarf variety), Ariande (violet blue, white wings), Lavender Queen, Frank Boustead (biscuit colour, yellow wings), Joan Bown (soft rose, creamy yellow wings; this is very choice), Nellie (nearly white), China Blue, Isis (self blue), Mauve Queen, Rose Queen (deep fiery rose), Rosea Bicolor (rose and white), Nora (lilac rose), Summer Cloud (pale blue, shaded deeper blue), May Queen (purple), Ruby King and Delight (chocolate and pink). Seed and seedling plants of good strains are easily procurable, a strain known as Regal Lupines is offered by most seedsmen and is a very choice strain.

Lupinus nootkatensis is a fine dwarf early flowering herbaceous variety, colour purple and creamy white, the foliage is very distinct, being massive and with broader leaflets than polyphyllus.

LUPINES AND IRISES ARE AMONG THE MOST BEAUTIFUL JUNE FLOWERS.

As they flower at the same time and complement one another the best effects are gained by planting them together.

L. Gladys Robson, colour pale lavender, is a fine hybrid nootkatensis.

Lupinus arboreus (Tree Lupines) are too large for any ordinary border; they require space for development, as they often grow 8 feet high and 8 feet to 12 feet in width. Where room can be afforded they are certainly very handsome. Yellow and whites predominate, but they are now to be had in a great variety of very lovely colours. Hybrids (arboreus × polyphyllus) are interesting and, where the arboreus blood has not been too assertive, their value as border plants is enhanced.

Propagation by seed is exceptionally interesting. Spring sown seed will produce plants to flower well in September and October. These plants will bear division the following spring or cuttings may be taken and rooted in any ordinary cold greenhouse or frame. J. H.

The Rose Society's Choice of the Best Roses

IT has been truthfully said that the members of the National Rose Society obtain the full value for their half-guinea subscription in literature alone. The Rose Annual soon to appear is well worth the money, but that is not all that is supplied. We have before us a copy of the Society's Select List of Roses and Instructions for Pruning, and as this is only supplied to members, we strongly advise those readers who are not already members to enrol themselves at once.

In the little work mentioned, the amateur and beginner in Rose growing will find the pruning instructions most helpful; indeed, one cannot go wrong in the often puzzling details of pruning if this book is thoroughly well studied. There are some excellent illustrations which will assist the novice to master this somewhat intricate matter.

As to the selections, the Society point out that it is not a catalogue. The most able minds among Rose growers have compiled a select list so that no one need fear obtaining the Roses they desire from the names given. We find no fault whatever with the selection excepting that we miss some good and tried Roses, whereas some novelties are inserted which cannot possibly have had a sufficient trial. For instance, Coral Cluster is named. As far as we know this Rose has only been exhibited once and that at the last autumn show. We believe it is a sport of Orleans Rose, and who can say it is a fixed sport?

Taking them at random, the following grand Roses find no place in this selection. Amateur Teyssier, one of the loveliest of garden Roses; Peace, a most beautiful sport of G. Nabonnand; Johanna Sebus, a most beautiful Rose and one of the sweetest; Entente Cordiale, a very chaste Rose and of delicious fragrance, quite one of Pernet-Duchers best; Grange Colombe, a splendid long bud; Warrior, a fine red bedder; Lina Schmidt Michel, one of the grandest of our shrub Roses; Lady Dunleath, really exquisite in form and fragrance; Mrs. T. Hillas, a fine yellow; Mayflower, quite a useful show bloom; Sachsengruss, a noble flower as big as Druschki, with the most delightful shell pink flowers; Theresa and Souvenir de Stella Gray, two choice colours that should be in every collection; Souvenir de Gustave Prat, a most delightful yellow of sturdy growth.

In the selections of bedding Roses we miss one of the best dark reds, W. C. Gaunt.

Considering the great value of the polyantha pompon for bedding, we think a larger list than seven could have been usefully given. Triomphe Orleanaise and Merveille de Rouges are two fine reds and Mme. Jules Gouchault and Perle

Orleanaise are quite two of the best pinks. Some of these occur in the body of list, but they should be in the selections. Among ramblers we miss that grand variety Miss Helyett, also Purity and Galaxy.

When there is such a demand from the general public for fragrant Roses, we think this selection of very fragrant varieties might have been considerably increased. As a correspondent put it recently, "a Rose without fragrance is simply a flower, it is not a Rose." We are of opinion that the Society might well in any future selection put a mark against all Roses that have fragrance, arranging them in two or three degrees: very fragrant, fragrant, and sweet—or something on these lines.

Mention is made of certain Roses as being too much alike, but strangely they do not appear in the select lists. These are Alfred Colombe, Charles Lefèbvre, Duke of Wellington, Marie Baumann, Prince C. de Rohan. In our opinion it is a mistake to be too drastic in eliminating the hybrid perpetuals. Some of them are far superior to the hybrid teas, especially for town gardens.

September Michaelmas Daisies

Good forms of the perennial Asters are now so many that there is no trouble in picking out a certain number specially for September and so securing a fine show for a good three weeks, keeping the later kinds in a separate border for October. In the double border illustrated the kinds are by no means the newest, but are some of the older standard sorts, such as F. W. Burbidge, Shortii, Topsawyer, umbellatus, acris, with some home-grown seedlings and with a liberal admixture of Pyrethrum uliginosum, which, though not an Aster, is certainly a Daisy and flowers at Michaelmas, and therefore has an undoubted right to

BORDERS OF SEPTEMBER MICHAELMAS DAISIES

Improved by an informal edging of Aster acris, Sedum spectabile and the silvery-grey of Stachys lanata.

PLANTS FOR THE FRONT OF THE HERBACEOUS BORDER

In Addition to Annuals there are many Perennials which can be Appropriately Used

THE front of a herbaceous border may be dealt with in more than one way to produce good effect, but the average treatment of such a border is alike from back to front and from end to end, making difficult if not ruling out any special dealing with the front. Additions and variations of this planting include groups of annuals in the larger spaces with a bordering or edging of early spring bulbs, Pinks, Violas, or whatever may be preferred by the owner as a finish off. A more recent bordering arrangement than the foregoing—albeit not yet widely adopted—is that of embedding suitable stones along the front and planting in between them appropriate plants, the whole being expressive of a rock garden like effect and giving a decidedly artistic and meritorious ruling. Another and less pretentious way of seeking to add early and late beauty to the herbaceous border frontal is the plan followed here.

A certain width—ours is 4½ feet to 5 feet, but this could be less or more according to the size of the whole border—is left free of herbaceous plants and dug as if it were a separated border. Being clear of plants, this part can be the better tilled, and any given length can receive special attention for any favourite subject, of which there is usually one or two. This narrow border need not be necessarily in a straight line where it touches the herbaceous plants, but slightly irregular if preferred. Of the advantages of so dealing with the front of a large border, one is that some groups of plants can be seen early in flower *en masse* rather than as small groups here and there and before the bulk of the plants at the rear of the border are not more than half-grown. This done is no mean gain where a gardener has to obtain an effect as early as possible. Another weighty point to be advanced for this system is that a group of pot-grown or frame-grown stuff having been duly hardened can be introduced in any stage of growth and at any time of the year—a truly valuable asset when something fails after having been timed to give satisfaction during a particular week or month. Then there is the profit derived from being able to more easily and satisfactorily look after such plants in the front of a border than when distributed among late-flowering subjects. Of course no border need be so treated its whole length, but in sections only if preferred, the intervening spaces being filled out to the path with herbaceous plants.

For the purpose outlined I have used the following plants: Antirrhinums, Asters (annual), Canterbury Bells, Carnations, Geraniums (Zonal), Geum, Iris (Spanish), Nasturtiums, Pentstemons, Sweet William, Verbenas (bedding), Verbena venosa, Violas and Zinnias. Many others can be suggested, and there is no reason why such planting could not be done with blocks of all annuals, except that rotation planting must be studied to keep a continuous show. Where Verbena venosa will stand the winter its position need not be disturbed annually. Asters do well placed between Violas, and prolong the season of flowering on the border, as do dwarf Nasturtiums put between Canterbury Bells, yellow between the purple plants and scarlet between pink plants; while Zinnias planted between Sweet Williams serve to carry on very creditably the brightness and worth associated with the name of the latter old friend. And an intermingling of Carnations and Spanish Iris will lengthen the period of flowering for the section of ground they occupy. C. T.

Ampthill Park Gardens.

Early-flowering Chrysanthemums.—Hundreds of cultivators are quite content to allow the old roots of their early or border varieties to remain in the soil year after year to produce weakly stems, much overcrowded, and correspondingly weakly flowers. One year old plants may be left in many instances, as such, if well manured and protected from frost by ashes, will bear a good crop of nice blooms. But it is much the best plan for amateurs who possess a cold frame to lift the roots, carefully divide and plant them in light soil in it. This simple protection will result in healthy growth, and some of the best cuttings may be inserted in sandy soil in a box in March. The cuttings will form roots quickly and attain to a very fair size for planting in the border at the end of May. Young plants always bear the best quality blooms, and by this means, moreover, the stock is maintained in a healthy condition.

PERENNIALS THAT SUCCEED IN SHADY POSITIONS

PLANTS growing in such a position must not be too near the base of shrubs or trees, or the roots from these will draw practically all the nourishment that these perennials require. I believe that many of our best and gayest plants do best when half shade is given them. Those shaded from the morning sun gain the sun in the afternoon, but when herbaceous plants are exposed all day they do not last so long in flower as a natural consequence. In preparing a border for these it is best to trench the ground to a depth of 2½ feet to 3 feet, using at the same time plenty of good farmyard manure and also a sprinkling of lime, if none exists in the soil; but if the soil is light and sandy 2 feet will suffice. Planting can be done any time during October or March and early April. After planting, it may be necessary to apply water until the plants are established; if this is needed, water well and then leave them for a few days until necessity compels to water again. A few good subjects suitable for such positions I will enumerate.

Delphiniums.—These are very popular flowers, and good forms are now easy to procure. Of course, those grown in partial shade do not flower so early as those in full sun, but they do last longer and are usually of a better colour. When planting, some of the older varieties are still excellent, such as Rev. E. Lascelles, The Alake, Moerheimi (white), Belladonna semi-plena (the last named is a very free bloomer and excellent for cutting), King of Delphiniums, Mrs. Carnegie and, of course, heaps of others.

Pæonies do well in shade, both singles and doubles, and are extremely fragrant. Some beautiful forms are now to be had which are of Chinese origin. These, planted in shady walks between Rhododendrons and other shrubs, do uncommonly well. Empress, Magasaki, Magnet and Geisha are among the most beautiful varieties.

Hemerocallis.—These showy plants are well adapted for any border, and they bloom from May to August. Good forms of these are H. aurantiaca major (deep orange and very fragrant), H. Ajax, H. citrina, Gold Dust and Queen of May.

Helianthus (Perennial Sunflower) is very free flowering and should be planted in masses and will thrive in any position.

Heleniums are very attractive and free flowering, and some good forms are Riverslea Beauty, Riverton Beauty, Riverton Gem and striatum.

Galega Hartlandi and G. orientalis are also free and good.

Funkia ovata, F. Sieboldiana and F. albomarginata are excellent in shade.

Euphorbia Wulferi is showy and flowers from the end of May till July.

Epimediums are showy as regards both foliage and flowers and do best in a shady, moist position.

Epigæa repens is an evergreen and sweetly scented plant.

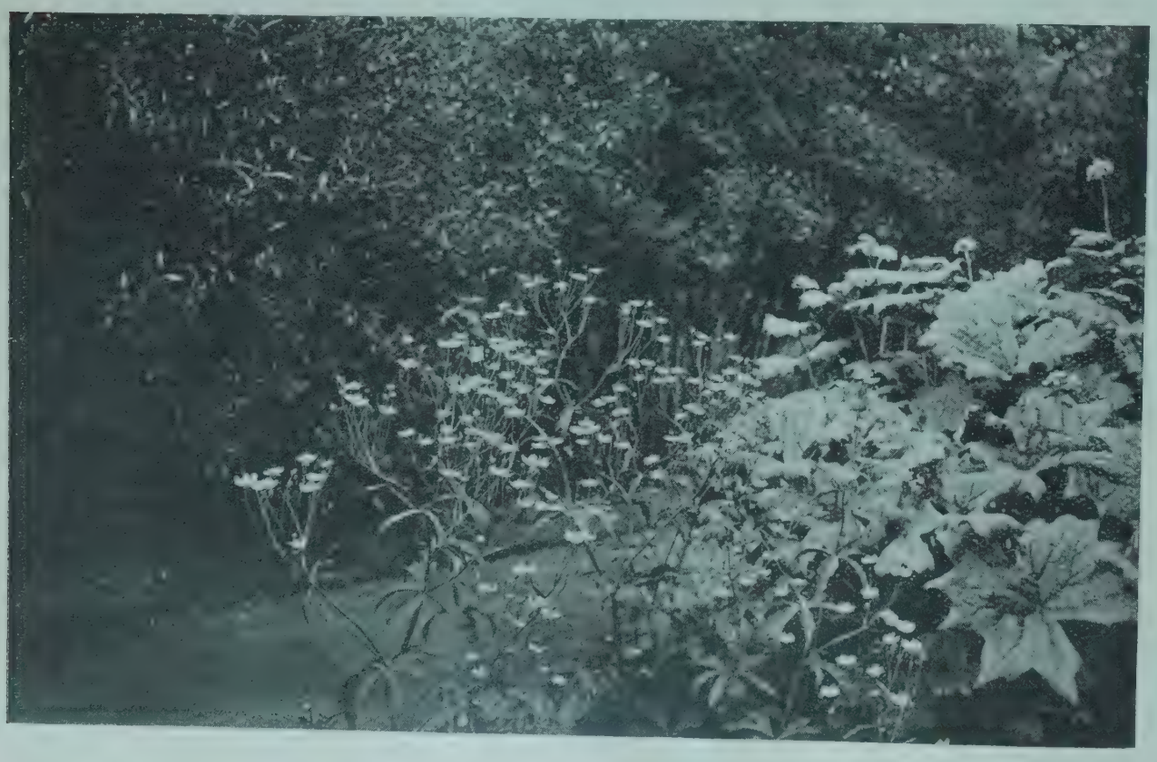
Dicentra (Dielytra) is very pretty and flourishes well.

Cimicifuga simplex and C. americana are very pretty and flower in August and September.

Coriaria terminalis is excellent for the border, bearing waxy berries, resembling long bunches of Currants, in the autumn. These are unusually attractive.

Ranunculus aconitifolius and **Trollius** Orange Globe, Triumph and Boule d'Or are fine varieties and free.

THE SPIRÆA IS ONE OF THE BEST PERENNIALS FOR WOODLAND SHADE.



A SHADY WATERSIDE WALK.
The white Bachelor's Button (Ranunculus aconitifolius) used with good effect.

Tropæolum speciosum looks well when allowed to ramble over a tree or tripod. When planting this prepare a hole 2 feet deep and plant at least 18 inches—out of the influence of cold or heat.

Trillium (Wood Lily).—These are fine when in flower and should be planted fairly deep in good leaf-soil and loam. T. grandiflorum (white), T. erectum (purple) and T. stylosum (pink) are the best forms.

Tiarella cordifolia, has feathery white flowers like foam.

Spiræas and **Japanese Anemones** do well in a damp, shady position. The Spiræas include palmata, Peach Blossom, Queen Alexandra, filipendula fl.-pl. and ulmaria fl.-pl.

Sidalcea Listeri and Warley Rose are also good in August.

Rodgersia podophylla is excellent.

Solidago is excellent for cutting and massing; and Golden Wings, canadensis, Shortii and Pilosa are a good, reliable selection.

Primula japonica, P. Juliae and P. sikkimensis are useful and pretty forms for the shade. P. denticulata will also grow well and flower early.

Saxifraga. — The Megasea species will respond to shade and are

attractive for covering stones.

Aconitum Fischeri, A. Napellus and A. N. alba.

Asters will readily respond to partial shade. One of the best is King George, a moderate grower, but with massive flowers. A. Linosyris, the ericoides section and many others. Hon. Edith Gibbs is a very fascinating variety, pale lilac and very pendulous; where this is allowed plenty of room it is handsome. Asters are so numerous that really one should see a collection and choose their own colours and habits.

Clematis. — Many of these do extremely well in perennial borders. It should be possible to have a long succession of flowers, especially if the dead flower-stems are cut as soon as the bloom passes, and this more directly applies to those plants which will develop another crop of flowers; but once seed is allowed to set, the plant ceases to grow. The ruthless cutting back is to be condemned; what is done should be done for the good of the plant.

FIVE MONTHS AFTER PLANTING. THIS JAPANESE ANEMONE SUCCEEDS WELL IN THE SHADE.

Staking demands care; nothing looks worse than to see plants tied up in the middle like a Birch broom. The whole matter should be made a study if artistic effects are to be produced. I have omitted bulbs, though Crocus and Narcissus do splendidly, and when planted should be put down deep so that they are not disturbed in hoeing and forking over the border.

Drynham Gardens, Weybridge. W. A. COOK.

The True Shamrock and How to Identify It

BY JAMES BRITTEN, F.L.S.

"THERE was a fair amount of Shamrock worn in London yesterday, or, rather the common clover which passes for shamrock. This plant is now quite common in Ireland, and I received a small box of it from Cork yesterday morning labelled 'Shamrock from Ireland,' but it was not shamrock at all. Genuine shamrock is the beautiful little wood sorrel, the trefoil leaf of which is a brilliant green and which bears a geranium-like white flower. The clover which has usurped the place of the traditional shamrock, has no flower and the four-leaf variety is quite common."

This, from the *Daily News* of last year on the day following St. Patrick's Day (March 17), is an excellent example of the paragraphs which, in various newspapers, have commemorated the feast and will no doubt continue to do so until some accurate account of the Shamrock is readily accessible. At present, although the late Mr. Nathaniel Colgan of Dublin, published an admirable monograph on the subject, the "Journal of the Royal Society of Antiquaries of Ireland"—in the sixth volume of which, published in 1896, his account appeared—is not likely to come in most folks' way; and I think the readers of THE GARDEN may like to be put in possession of some of the principal facts it contains. The subject was treated at some length in the "Dictionary of English Plant Names," wherein my essay had the good fortune to attract Mr. Colgan's notice and led to his more complete history; but the Dictionary is not on everyone's shelf, and moreover, is out of print, so there seems room for some popular summary of the facts: of the fictions, the paragraph which stands at the head of this paper is a fair summary.

The fictions begin with the first sentence: a very slight investigation would enable folk to see that the plant which, in the writer's opinion, "passes for Shamrock," is not "the common clover," and, without having seen it, I am quite sure that the "small box" he received from Cork did not contain that plant. Moreover, the entirely modern view, which was not invented until 1831, that the Wood Sorrel is the "genuine Shamrock" finds no support either in tradition or in popular use. The reference to a Clover which "has no flower" and of which "the four-leaf variety is quite common," aptly closes the catalogue of errors.

Postponing the consideration of the earlier application of the name, it may be well to state definitely that the plant at the present time accepted as Shamrock by Irishmen almost everywhere, at home and abroad, in Ireland and in England, is the Lesser Yellow Trefoil (Trifolium minus). It is this plant which—with an occasional and accidental exception in favour of the Yellow Trefoil of cultivation (Medicago lupulina)—fills the stalls in Covent Garden, and is carried by the post in time for St. Patrick's Day to every part of the world where Irishmen congregate, which is to say everywhere. It certainly filled the "small box" to which the *Daily News* writer refers, for Cork knows no other; and in the Trinity College Botanical Garden in Dublin it is grown especially to satisfy the demands of English enquirers for the real Shamrock. It is this which is fastened on the Christmas and St. Patrick's Day cards made up in Dublin and Belfast, and of which the seed is, by their means, distributed. When the Dictionary of Plant Names was in progress I had specimens or records of Shamrock from thirteen Irish counties—T. minus in every case; and Mr. Colgan's wider experience confirms this evidence.

As every botanist knows, T. minus is widely and commonly distributed through Great Britain and Ireland, but he will find it difficult to convince an Irishman of the fact. In his belief, the plant is found only in the island which St. Patrick made his own; when removed from it the plant cannot live—"if its roots be not fed from its own Irish clay it will wither," said a recent writer, and this is the popular view. Another popular belief is that the Shamrock does not flower. I remember once in Ireland asking a man whether the T. minus I showed him was Shamrock, and he at once disqualified it on the ground of its yellow flowers. Mr. Colgan had a somewhat similar experience in the Aran Islands, where some men whom he asked to find the plant were "apparently inclined to fix on T. minus but seemed so staggered at the appearance of its flowers that they gave up the search in the belief that it was too late for the Shamrock." This belief is quite intelligible when it is remembered that in March, when the Shamrock is most in request, T. minus has not put forth its blossoms.

But was T. minus the original Shamrock? So far as the legend which connects the plant with St. Patrick is concerned, it may well have been; but the name itself, in its earlier appearances in literature, was associated with the Purple and White Clovers (T. pratense and T. repens); it is these which Gerard (1597) says "are called in Irish Shamrocks," and it would seem that the name was applied more especially to the former. No poetical or fanciful reputation attached to the plant at the period named, or for some time later: it will doubtless surprise many to know that, to quote Mr. Colgan: "For almost a century from the date of its first appearance in literature the Shamrock presents itself solely as a breadstuff or food herb of the Irish, probably only so used in times of famine or scarcity of corn." He gives numerous extracts from writ[illegible] to 1682—the last date at which we have evidence

of its employment as food—all referring to this use of the plant. The first, which, indeed, is the earliest contribution to the history of the Shamrock, is from Lobel, who, in his "Stirpium Adversaria Nova" (1570), having spoken of the value of the clovers for fattening beasts, goes on to add that "the mere Irish grind the meal for their cakes and loaves, which they knead with butter, when they are vexed and nigh maddened with a three days' hunger" (I quote Mr. Colgan's translation of Lobel's Latin). Henry Mundy, an Oxford doctor, writing in 1680, says that "the Irish that nourish themselves with their Shamrock, which is the purple Clover, are swift of foot and of nimble strength." Ray (1686) has a similar statement, derived from Tancred Robinson, who heard it in Ireland; and Linnæus in "Flora Suecica" (1737) follows Ray in his statement and in spelling the word "Chambroch." The latest reference to the use of the Shamrock as food is that of Sir Henry Piers in his "Description of Westmeath" (1682), who, however, does not suggest it was regarded otherwise than as ordinary food; speaking of the time after harvest he says: "Butter, new cheese and curds and shamrocks are the food of the meaner sort for all this season."

The earliest reference to the wearing of the Shamrock occurs in the Journal of Thomas Dinely, kept in the year 1681 but not published until 1856; here the wearing and eating are combined—"The vulgar superstitiously wear Shamrogues, 3-leaved grass, which they likewise eat (they say) to cause a sweet breath." But so far as published literature is concerned, the first record of the wearing in connection with St. Patrick's Day, or to the legend which associates the Shamrock with the Saint's preaching, is less than 200 years old—a fact which seems almost incredible, seeing how generally the legend is known: neither Mr. Colgan nor I have, however, been able to find any earlier reference to association or legend than that which appears in Caleb Threlkeld's "Synopsis Plantarum Hiberniæ," published in Dublin in 1727. Threlkeld (1676–1728) was born in Cumberland and took a doctor's degree at Edinburgh in 1712. The interesting preface to the Synopsis contains many details of his life; he went to Dublin "as divine and physician" in 1713, and made botanical excursions in all the surrounding country, as well as in Meath and in the north of Ireland. His book, one of the earliest on the Irish flora, includes more than 500 species, with the localities in which they occurred, their English and Irish names, and their medicinal properties. Robert Brown named in his honour the Chenopodiaceous genus Threlkeldia.

His reference to the Shamrock runs as follows: "Trifolium pratense album, white-flowered Meadow Trefoil. The Meadow Trefoils are called in Irish Shamrocks. . . . This plant is worn by the People in their Hats upon the 17. Day of March yearly (which is called St. Patrick's Day), it being a Current Tradition that by this Three Leafed Grass he emblematically set forth to them the Mystery of the Holy Trinity. However that be, when they wet their *Seamar-oge*, they often commit Excess in Liquor, which is not the right Keeping of a Day to the Lord."

It will be noted that Threlkeld refers to the legend as "a current tradition," and I see no reason why it should not have been handed down from the fifth century, when St. Patrick preached. The custom of "wetting" or "drowning" the Shamrock is happily nowadays "more honoured in the breach than in th' observance."

It will be noticed that Threlkeld specificially limits the name to the White Clover, and it is certainly that species which is generally accepted by Englishmen as Shamrock and which usually appears in conventional designs, representing the Rose, Shamrock and Thistle. It would seem to have been worn in London on St. Patrick's Day early in the last century, and also in Dublin. Mr. Bicheno, who, as we shall see, championed the claims of the Wood-Sorrel, speaks of "the clover in the hats of the Irish in both places," adding that "anyone who should entertain an opinion that this is not the original emblem of Ireland will be thought to have no ground for differing from the established belief."

It would be interesting to know when T. repens was superseded by T. minus; the latter certainly held the field more than forty years ago, for I remember the contempt with which my offer of White Clover one St. Patrick's Eve was rejected by a club of Irish lads in which I was interested, and the triumph with which T. minus, sent from County Cork, was shown me the following day. A leaflet sent out two years ago by the nuns of a convent in County Mayo, whence much Shamrock is annually distributed, states that in Connacht the White Clover is in favour, although T. minus is employed throughout the south of Ireland. It is T. minus that is distributed annually by the Queen to the Irish Guards; the supply for this, according to a correspondent of the *Westminster Gazette* last March, is cultivated for the purpose by the Countess of Limerick.

CORRESPONDENCE

A HANDSOME PLANT FOR A SHADY AND MOIST SITUATION.

THE distinct bronze green foliage of Rodgersia podophylla has given this handsome herbaceous perennial the popular name of Rodger's Bronze-Leaf. The plants thrive best in moist and somewhat shaded situations, being nowhere happier than in a bog garden. The plant depicted in the illustration is growing in such a position, through the middle of which in summer flows a little artificial stream. It has a stoloniferous rootstock or rhizomes which push out into the ground around the plants, soon increasing in size, these also affording a ready means of increase. The large palmate leaves are rich bronze green; above these the tall branching flower-spikes are conspicuous during June and July to a height of 2½ feet to 4 feet. The creamy white flowers are small individually, but very freely produced on the inflorescences. Rodgersia podophylla is a member of the Natural Order Saxifragaceæ, and was first introduced from Japan in 1880. Rodgersias thrive in a mixture of fibrous loam, peat and leaf-mould, if plenty of coarse sand or grit is added.—A. O., *Surrey*.

RODGERSIA PODOPHYLLA FLOWERING FREELY IN A BOG GARDEN.

THE FLOWERING OF STERNBERGIAS.

MUCH has been written of late as to the flowering of these plants and the goodly group at Cambridge appearing in THE GARDEN of February 26 prompts this note. It cannot too widely be known that the only reliable and free-flowering form is S. lutea angustifolia. Compared with it in this latter respect Fischeriana (spring flowering) lutea (type) and macrantha are scarce worth while. S. lutea may grow freely enough and make good tufts, but flowers are very few. In all probability soil warmth and absence of sun heat are the chief causes of the failure. What may happen if the bulbs were planted in beds of pure sand would be worth the experiment to see. Of the variety S. l. angustifolia the best general flowering of it I ever saw was in the Parsonage Garden at Ryde, where for many bulbous plants the beds were of almost pure sand to a depth of

nearly 2 feet. Here, in fine clumps and at frequent intervals in the open borders, the variety angustifolia flowered regularly each year. Too often in our gardening efforts we are, I fear, content to conform to orthodox ways and plant "in well-drained soil"; our failures all too rarely tempting us to experiment even with warmth loving subjects in sand beds. The late Rev. H. Ewbank, however, grew many choice things in this way, and such brilliant Gerberas—two dozen flower-heads on a clump—as I recall I had seen neither before nor yet since. The old Parsonage garden was a sun-kissed garden too.—E. H. JENKINS.

Should Chefs or Growers Judge Garden Produce at Shows?

A Conflict of Opinion

A LITTLE friendly fling at Mr. E. Beckett from my pen in a recent issue of THE GARDEN has drawn from him an article (March 5, page 116) which I have read very carefully; but it has not brought conviction to me in the very slightest, and I frankly confess that I remain the unrepentant heretic which I suppose he considers me. After paying me a generous compliment, at which I duly and suitably blush, he rakes up the old story of my large Capsicum, to which I fully replied in your issue of March 25th, 1916, so that I do not consider it necessary to re-hash that matter. There is no need for a humble individual like me to pay Mr. Beckett compliments; he is recognised in all quarters, both here and abroad, as leading the way in the cultivation and in the methods of exhibiting fine vegetables, and in this latter respect he is certainly not one of our greatest offenders as regards size. With reference to the new judging procedure outlined by the Royal Horticultural Society, I will be frank enough to say that I am a little in doubt as to the employing of chefs in judging. I think, mind you, that they would be helpful; but what I would really like to see would be the collaboration, in judging vegetables, of amateur consumers of taste and discrimination, such as we had in the late Colonel Newnham-Davis, and such as we have in the Rev. G. H. Engleheart and others at the present day. I should hope that Mr. Beckett would not object to this, although the word "chef" seems to be anathema to him, for some reason, and I understand that he will absolutely refuse to exhibit at all in future if chefs are to be employed, which would indeed be a great loss to all of us. I do not want to eat, or to have on my table, Onions weighing 4lb. each, Carrots and Parsnips about a foot and a half long, with about another foot of useless rat-tail added on to that; Leeks, Broccoli and other things that would not go into any vegetable dish that ever was made. I have no doubt at all that these things have their uses (bar the rat-tails), but they are not for the likes of me. They look imposing on the exhibition stage, and no doubt an enormous amount of trouble (worthy of a better cause) has been taken in the growing of them; but on the table of the average consumer they are just unmanageable: and neither Mr. Beckett nor any other exhibitor must shut his eyes to the very strong and growing public feeling there is on this matter. It is being voiced in many quarters among amateurs, and has been for some time; but it is now extending in other directions, and on picking up a horticultural trade paper this week I read the following, *a propos* of the new Royal Horticultural Society regulation: "A desire to educate folk generally that big vegetables are not on that account the better, is commendable, and *it is to be hoped we shall get away from the giant specimens which have, in the past, won so many prizes*, more especially at country exhibitions." This is from the pen of a well known veteran gardener, a regular contributor to the paper in question, and surely shows pretty plainly the way in which the wind is beginning to blow. F. HERBERT CHAPMAN.

IF Mr. Beckett is certain that his show vegetables are all they *should* be in dinner-table quality, *why* should he so vehemently object to have them judged by eminent chefs? Surely he should welcome such judgment. The chef is not an "unqualified person" in judging vegetables—they are materials he uses in his work. No! sorely though the fact may wound the gardener, the chef is—or should be—the better judge of vegetables, though the final judgment must rest with those who partake of the prepared vegetables at table. Every observant, hospitable mistress of a house knows that young, tender vegetables are generally preferred to large-sized ones. It is *quality* that counts at the dinner-table. Small Turnips, Carrots and Onions (yes! even *braised* Onions!) are almost invariably chosen rather than large ones. Large Turnips, in particular, are often apt to be "woody in texture and strong in flavour"; and although my taste regarding Peas accords with Mr. Beckett's, in preferring them full grown, I must admit we are in a very small minority, and that nearly everyone will agree with Lord Lambourne and Mr. Dykes. Mr. Beckett's absurd—yes! *absurd*—suggestion that this will lead to a reversion to field Peas is—well! Really! Though Mr. Beckett is *facile princeps* as a *grower* of show vegetables, my faith in his judgment of their *table* quality was severely shaken by his recent article in THE GARDEN (one notable instance being his commendation of Favourite Cabbage—a very worthy greengrocer's one—and the omission of Harbinger and Little Gem, which, after many years' pitting against many older and newer varieties, I find still the best in table quality). And now!—his commendation of "fully ripe Marrows" as a "delicious" winter vegetable has finally and completely shattered all my remaining remnant of faith in him as a connoisseur of cooked vegetables. It is true, as Mr. Beckett observes, that this controversy has raged for fifty years. And why? Just because gardeners, being a stiff-necked, perverse and . . . (I will not quote further) have obstinately persisted in growing for exhibition, vegetables which, in the opinion of cooks and consumers, are *not* desired for the table.

Now, after the brave and sensible letter alluded to, we hope gardeners may *at last* be turned from the error of their ways, and that in future we may see, at the Royal Horticultural Society's and other shows, vegetables of a class that will please better the taste of those who eat them.

Mr. Beckett's remark at the end of his article that poor cooking may mar good vegetables is quite beside the point, for only *eminent* chefs are to be invited as judges by the Royal Horticultural Society, whose new departure will be hailed as a most progressive step taken to improve the general quality of table vegetables by everyone who is neither seedsman nor gardener, but, like the writer, ANNE "AMATEUR."

I READ with interest the letter in THE GARDEN recently by Lord Lambourne and Mr. Dykes but certainly not with approval. I agree that "Vegetables are grown primarily to be eaten" also that "Size in itself is not necessarily a defect," but following the latter statement the letter goes on to condemn size all through. However, taking the letter *seriatum*—"and yet anyone who has attended shows where vegetables have been exhibited must have noticed that size has often been preferred to quality." It may be so, but I must say that has not been my experience (I have often heard of complaints that the largest specimens did *not* obtain the highest award). An exception is given as to "'Size in itself not being necessarily a defect," viz., "Vegetable Marrow, which loses so much of its flavour unless cooked whole." I submit this is purely a matter of taste. Some prefer small Marrows cooked whole, others prefer them larger, peeled, cut up, seeds removed, boiled and served up with melted butter. Certainly "No one can deny that huge vegetables are only too often coarse in quality," but not always, and the letter seems to me to condemn all large specimens. They are not to be recognised at shows. The next sentence somewhat puzzles me, viz., that "when only a small area of vegetable ground is available . . . quality may have to some extent to be sacrificed to quantity." Does that mean that with large-sized specimens a greater weight per rod is produced? or that the ground should be cropped closer to obtain more in quantity (number) but of inferior quality? This I fancy would be contradicting the purport of the letter and, moreover, as it suggests special classes for the cultivators of small plots, it must mean that they should grow and may exhibit large specimens. "The Royal Horticultural Society has resolved," &c.—I think this would better read "The Council of," &c.; the matter has not, so far as I am aware, been before any Committee—"that at all its meetings vegetables shall be judged according to their fitness for table and not merely by their size and external appearance." If that means "quality" it is done so now. "With this object in view it has been decided to ask the assistance of eminent chefs as judges." This to me is "too funny." Chefs are engaged among the wealthy classes and in high-class hotels or restaurants. At big dinners what vegetables do we get? Generally two, including Potatoes. The great bulk of vegetables are eaten by the middle and lower classes, and I could find many gardeners' wives who could show chefs how to cook them. "For instance, Peas will be commended not so much for the large size of pods as for the tenderness and number of the individual seeds in them." I have never known Peas to be judged in any other way—always opened and examined. "Carrots will have to be of moderate size of that tender crispness which is lost in full-grown examples." With respect I submit it would be more correct to say "sometimes lost."

Speaking as a grower for Covent Garden, large, well grown vegetables realise most money (and I cannot imagine that the buyers are all fools). West End tradesmen prefer small, close Cauliflowers. Why? Quality? No, three make a more attractive dish; but large, close heads are the most valuable. I cannot think of any other vegetable for cooking preferred small. Is it the intention to bar awards to the magnificent

exhibits of vegetables put up by Mr. E. Beckett and others, all showing the highest cultivation and of excellent quality? If so, what a pity. Or does the letter refer to the exhibits of vegetables for competition where the same arguments as to quality with size hold good? If so, I can foresee a shortage of exhibitors, anyhow of the best growers.

Twickenham. W. Poupart.

New and Rare Plants

FIRST-CLASS CERTIFICATES.

Clematis Armandi × Pavoliniana Jeune's Variety.—An early flowering climbing evergreen form after the type first named. Said to be perfectly hardy, it is next to impossible to over-estimate its value. The starry flowers are pure white and produced abundantly in axillary clusters, the individuals occurring on petioles 4 inches to 6 inches in length. Leaves 4 inches to 5 inches long, ovate acuminate, and Lapageria-like in texture and appearance. An exquisitely beautiful and highly ornamental plant. From Captain R. B. Symons-Jeune, Knightsbridge.

Narcissus Magnificence.—The high award in this case is but a natural sequence of the award of merit granted to it a year ago. A self-yellow Ajax or trumpet variety of richest yellow, it is of fine stature and commanding presence. In these respects it is comparable to King Alfred, though without the latter's unique refinement. It is of maximus descent if not its intensely golden hue, the widely expanded, much lacerated rim a glorified edition of that parent. Handsome and imposing. Recommended for market and garden. Shown by the Donard Nursery Company, Newcastle, County Down.

AWARDS OF MERIT.

Freesia Treasure.—A large and handsome bright yellow variety, the corolla tipped occasionally with primrose. Strong grower, good branching habit.

Freesia Apotheose.—Mauve coloured with whitish throat, a great advance in the colour first named. Vigour, good branching habit and freedom characterise it. These twain were from Mr. C. Van Tubergen, jun., Haarlem, Holland.

Rhododendron H. T. Gill.—Said to have R. Fortunei and a R. arboreum selected seedling as its parents, this welcome variety has handsome and compact trusses of rich rosy scarlet. A bush of it in flower would constitute a most imposing object. Shown by Messrs. R. Gill and Sons, Falmouth.

Cymbidium Alexanderi giganteum.—The pink of C. Alexanderi is seen in richer measure in the larger variety, which is also characterised by maroon spots on the side lobes and front of lip. From Mrs. C. W. Bischoffsheim, The Warren House, Stanmore.

The above-mentioned novelties were shown before the Royal Horticultural Society on March 1, when the awards were made.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Pæonies.—These plants often occupy the same site for a number of years undisturbed, which renders it necessary to apply a good top dressing to the soil to prevent exhaustion. The present is a suitable time for the work to be done.

Hyacinthus candicans, also known as Galtonia candicans, is a good bulbous subject which may be planted now. As it is a somewhat late flowering plant, it may be very usefully employed as a "dot" subject among earlier flowering ones.

Seedlings.—The pricking out of the many batches of plants raised from seed now calls for frequent attention, and an effort must be made to keep ahead of the work, for if the seedlings are allowed to get leggy and drawn they require much more attention later to get good results, in fact it is doubtful if they ever really recover. It is worth noting that, whether boxes or frames be used for pricking out, the best results are obtained by only using about 3 inches of soil, as this easily responds to sun warmth, and thus keeps sweet and encourages quick root action. These remarks apply principally to such plants as Antirrhinums, Verbenas, Heliotropes and Salvias.

DAFFODIL MAGNIFICENCE.
A trumpet of the richest yellow.

The Hardy Fruit Garden.

Mulching.—If newly planted fruit trees, especially on light soils, have not been mulched, the work should be undertaken now, before the drying winds and increasing power of the sun have had time to rob the soil of any of the moisture so necessary to enable the trees to develop healthy root action. There is no gain in applying a mulch so early in the season on very heavy land. In addition to the newly planted trees, those already established having carried or giving promise of heavy crops, also repay a liberal mulch. Failing some well rotted cow manure, a suitable mulch may be made of stable litter and decayed leaves, well mixed and allowed to lie in a heap for a time, being given several turnings meanwhile.

The Kitchen Garden.

Leeks.—The main sowing of this reliable winter vegetable may now be made. In many gardens it is the practice to make only one sowing, but I think it an advantage to make several sowings and let the last be as late as early April, for often the late sown ones come in very useful, as they are not so prone to run to seed.

Cucumbers for frame cultivation should now receive attention, and seed sown and treated as advised in an earlier calendar. It is a great help to the earlier frame batches if a hot-bed can be arranged for them. Later batches will do nicely without such aid, but the sun's warmth should always be made the utmost use of by early closing of the frames. During the early part of the season the frames should always be well covered up at night. The Cucumber plants in bearing should receive frequent attention to tying and stopping, and be well supplied with moisture at the roots, and atmospherically.

Potatoes.—A good breadth of these should be got in as opportunity offers, the ground being in good working condition. Where space is limited, planting can be so arranged to allow of some Brassica crop running between the rows.

Seedlings.—The pricked out seedlings, of Cauliflowers, Brussels and Cabbage (sown as advised in gentle heat), must be grown cool and sturdy, avoiding excessive moisture and cold draughts; this will ensure the best results from them later.

Supplies.—Cover some crowns of Rhubarb outdoors as a succession to those indoors. Any boxes or barrels, failing proper pots, will do quite well for placing over the crowns before covering the whole well up with litter and leaves. Seakale may now be so treated and most excellent results obtained. I think sometimes the flavour of Seakale thus treated is even better than when grown in a Mushroom house. The supply of Mint and other herbs and salads must be entirely governed by household requirements and large or small batches brought on as desired

Plants Under Glass.

Azalea indica.—As the plants pass out of flower carefully remove all seed pods and decaying blooms. Shabby plants should be cut back and encouraged to make new growth in a warm, moist atmosphere, at the same time attending to any faulty root action, and repot or top-dress where necessary, using as a compost two thirds of best fibrous peat, a little leaf soil and good fibrous loam, with plenty of sharp silver sand added; pot firmly and avoid over watering until root-action is again in full swing. Spray frequently with rain water and occasionally with clear soot water. When the plants are sufficiently advanced with new growth and bud formation to justify feeding, use weak sheep manure water alternately with Standen's plant manure, for these two suit them admirably.

Fruits Under Glass.

Strawberries.—Plants growing freely in the

THE NEW YELLOW FREESIA TREASURE.

(*See "New and Rare Plants," page* 142)

kept well supplied with water on sunny days. Probably the greatest enemy to good results from pot plants is dryness at some stage or other.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cauliflowers.—Early varieties of these, which have been wintered in frames may now be transferred to a warm and sheltered border. A few light Spruce twigs run up each side of the rows are of great benefit in warding off cutting winds.

Hot-beds.—Additional hot-beds are an advantage at this time for pricking off vegetable and other seedlings into. Should manure be scarce, the admixture of more leaves will be necessary. This may not bring the bed to such a high temperature, but it will be found quite warm enough at this time for most vegetable seedlings, while it may be used with advantage later for growing good crops of Vegetable Marrows.

Onions.—Early sowings of these for large bulbs should now be pricked out, either into boxes or hot-beds. Use a nice free compost, being careful not to have much rough material at the bottom of the boxes, as this will be found a disadvantage when transplanting takes place, since the small white roots of the Onion are so easily damaged when lifting and separating the plants.

Fruit Under Glass.

Strawberries.—Early batches of these will now be swelling their fruits, so should receive some stimulant. A little manure water given about twice weekly will prove beneficial. If the plants are being grown in a forcing pit, it is advisable to have some moved into a cooler house as the fruit begins to colour, as this gives the berries a brisker and better flavour. Support should be given the fruit trusses, twigs of Birch being very suitable for this purpose.

Plants Under Glass.

Statice Suworowi.—This attractive annual, although not much used for bedding purposes in our district, is much appreciated for pot culture and proves an elegant subject for either conservatory or house decoration. It is easily raised, and a moderate temperature suits it best. When transferring the young plants to their flowering pots we find that three to a 6 inch pot gives the finest results. It is used with fine effect to break the flat appearance of other groups of plants.

Grevillea robusta.—In establishments where stoves and their innumerable types of table and other decorative plants were sacrificed during the war, the want is now felt of many old favourites; but Grevillea robusta is readily raised from seed sown now and develops into a useful sized plant by the end of the season. It is much prized for its

should be sown in heat, placing a pane of glass over the seed pan and keeping the soil always in a moist condition. Germination is slow, but once the seedlings appear and show their second pair of leaves they should be pricked out into 2½ inch pots and kept in a close frame for a period, potting into fives at a later date.

The Flower Garden.

Herbaceous Borders.—Owing to the open weather experienced here, bulbous plants are showing through the ground much earlier than usual, so work in connection with the hardy flower border should be proceeded with. Where the borders were top-dressed during the winter they should be lightly forked in, but where the borders may have been trenched or replanted the previous year, no dressing is thought necessary and so far this season they will have the surface run over with a Buco cultivator, a lesser sized implement being used among the smaller plants near the front of the border. Scatter wood ashes round the crowns of Delphiniums and Gypsophila as slugs have a special fondness for these plants.

Phloxes.—The feature of many old gardens during August and September is their glorious display of perennial Phloxes. On some heavy soils the Phlox does not thrive as one would wish, but gratifying results may be attained by adding some lighter material to the beds or borders allotted to them. Their fondness for old lime rubble is noticeable. and if this material is sifted and worked into a heavy staple, along with a goodly quantity of leaf mould, it will be found to have a most beneficial influence on the growth of the plants. The salmon pink shades are very popular, especially for cutting.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

VIOLETS UNSATISFACTORY (Herts).—Quite a variety of factors might contribute to the Marie Louise Violets not attaining their usual colour. For example, where and how grown last season, the soil, class of plant set out (rooted cutting or divided stool), position (sun or shade) being some of them. The not infrequent failing with these doubles, however, in winter is lack of colour, an anæmic condition probably largely due to lack of sunlight or this in conjunction with lifting and framing during the nascent (petal-forming) period of the blooms. For this latter the remedy, of course, would be to plant either in frames or in beds of frame dimensions so that lifting and transplanting in autumn could be dispensed with. Beyond saying that the plants "are growing in well ventilated frames," our correspondent does not give any clue as to their treatment.

PLANTS FOR WATER BASIN (M. H., Southampton).—As the low water level is productive of "inartistic" effect, we suggest that our correspondent corrects this defect without further ado. By inserting an ordinary "bend"—iron, lead or earthenware—into the present outlet, raising it to just below the rim level of the basin and cementing it in, the inartistic defect would be remedied once for all. The water level in such circumstances should be immediately below that of the surface surroundings, not a foot below, as though the entire arrangement was suffering from the effects of eternal drought or water shortage. The best tall-growing subject is Sagittaria japonica fl.-pl., flowers pure white, double and rising 18 inches out of the water. Of this two groups might be arranged, three plants in each. These were better set and sunk in baskets of loam and manure, and so arranged as to height that the crown of the plants would be about 6 inches under water. The best Water Lilies would be Nymphæa odorata rosea, N. o. alba and N. o. sulphurea. A pretty Grass is Cyperus longus and with Juncus (Scirpus) zebrinus could alternate with the Sagittarias near the sides and be treated like these according to depth. The Water Hawthorn (Aponogeton distachyon) should be encouraged to strew the water's

at its disposal should do well. Plant a few roots of this in a wicker basket and sink a foot deep. For its size the basin errs in being too deep, and if possible it would be advisable to introduce 9 inches of marly gravel into the bottom and above this 6 inches of strongish loam for the plants to root into and become established. This would save much subsequent disappointment.

SWEET PEAS AND COLOUR (S. W. G., Berks).—Sufficient quantities both of iron and magnesia are to be found in all ordinary soils for the needs of the plant, though high colour in fruit and flowers in the case of these plants growing in loams associated with red sandstone soils is often attributed to the presence of large quantities of iron compounds in such soils, and because of it sulphate of iron has been regarded as a valuable adjunct to manures. This, however, has not been borne out in practice. Lime and potash are, however, of infinite importance to the Sweet Pea, and if the soil is deficient in lime a free addition should be incorporated with the soil of the trenches now. Our correspondent does not give us any idea of the soil he is working with, though judging by the district (Berkshire) it is usually deficient in lime. The potash could be added later on.

THE GREENHOUSE.

PEACH TREES UNDER GLASS UNSATISFACTORY (J. W., N. Devon).—We fear the trouble is more deeply seated than the buds of the Peaches, although these show it most. The pith is dead and brown in several of the shoots, which suggests either that the roots are dead or dying or that the trees are suffering badly from gumming. We doubt the wisdom of painting buds with any oily material.

MISCELLANEOUS.

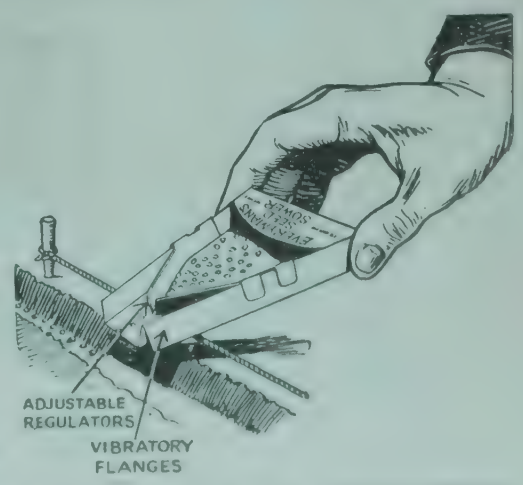
WORMS AND MANURE (Amateur, Somerset).—Several of the white, thread-like worms found in manure, leaf-mould and soil are quite harmless, but others may, at times, when present in large numbers, attack the roots of plants. We wonder, however, if the creatures referred to by our correspondent are actually worms. It is always more satisfactory to send specimens. Wakeley's Hop Manure is an excellent substitute for stable manure and is clean to handle and safe to use.

NAMES OF PLANTS.—Thorne, Broad.—Prunus Pissardii.——B., Durham.—Grisclinia littoralis.——"Alpine."—1, Saxifraga Elizabethæ; 2, Saxifraga apiculata; 3, Saxifraga Rocheliana var.; 4, Sedum spathulifolium; 5, Primula marginata.

An Aid to Efficiency in the Garden

ONCE again we hear the old familiar phrase, "Efficiency and Economy," and anything which tends towards a more economical production is welcomed by all true gardeners. Therefore we draw attention to an ingenious and exceedingly practical device for sowing all varieties of small seeds evenly, and as thinly as desired—and the seed being in full view, the rate of distribution is easily controlled—whereby not only is there a saving of seed, but a considerable saving in time for subsequent thinning out. As the latter operation has usually to be done during the busiest period of the season, the economy in this respect is very marked.

A glance at the accompanying illustration will show the sliding regulators, adjustable according to



A NOVEL DEVICE FOR SOWING SEEDS.

the varieties of seed in use, and also the side flanges, which produce a vibratory movement when passed along the cord or stick, used in drawing the drill.

Mr. Vincent Banks.—It will doubtless come as a surprise to many to learn that the Ministry of Agriculture has, for reasons of economy, decided to discontinue its propaganda work on the bottling and preserving of vegetables and fruits instituted by the Food Production Department during the war. For this important work the Ministry was fortunate in securing the services of Mr. Vincent Banks, who with Mrs. Banks, has made fruit and vegetable preservation a study of years. In view of the above decision and the importance of fruit and vegetable preservation to the community Mr. Banks proposes to continue the work in a private capacity and probably to establish centres for that purpose. Meanwhile he is open to engagements, and we wish him every success. His address is 111, Lambeth Palace Road, S.E.1.

A Selection of Sweet Peas.—In view of the interesting notes that have appeared in recent issues on this subject the following selection for garden and exhibition, recommended by Mr. Henry Eckford, of Wem (Salop), is worthy of consideration by all lovers of the Sweet Pea. Agricola, blush pink; Caprice, blue; Constance Hinton, white; Edward Cowdy, orange; Fiery Cross, bright orange; Hercules, pink; Ivorine, ivory; Jean Ireland, creamy picotee; Mrs. H. Hitchcock, cream pink flushed salmon; New Buttercup, pale primrose; Orchid, lavender; Papilio, red maroon; Pastel Blue; Peace, pink; R. F. Felton, lavender; Rosabelle, rose; Royal Purple; Scarlet Emperor; Tea Rose, blush rose; The President, orange scarlet; and Wedgwood, clear blue.

Reedens School of Gardening.—It is a sign of the times that schools for the practical training of women gardeners are springing up in various parts of the country. The one at Reedens is situated on high ground between Ashdown Forest and the sea in a delightful part of Sussex, twelve miles from Brighton and three from Lewes. There are seventeen acres of land, together with two walled-in kitchen gardens, flower garden, herbaceous and other borders and fruit plantations. The range of glasshouses, including vinery and Peach-house, and with greenhouse accommodation for other fruits and flowers, is particularly well ordered. Its equipment, indeed, admits of a thorough practical training, fitting the student to take up horticulture as a profession or enabling ladies to supervise their own gardens for pleasure or profit. Instruction is also given in fruit bottling and jam making, apart from the routine of theoretical and practical work. The school is under the personal supervision and direction of the proprietress, Miss C. M. Dixon, assisted by a staff of teachers. For such work Miss Dixon is possessed of many advantages, her lengthy training, subsequent experience and later intimate association with commercial horticulture for some years not least among them.

WANTED, the following Volumes of "THE GARDEN," bound or unbound: Vol. 68, July-Dec., 1905; Vol. 69, Jan.-June, 1906; Vol. 70, July-Dec., 1906; Vol. 71, Jan.-Dec., 1907; Vol. 75, Jan.-Dec., 1911; Vol. 76, Jan.-Dec., 1912. State particulars to B., THE GARDEN, 20, Tavistock Street, Covent Garden, London.

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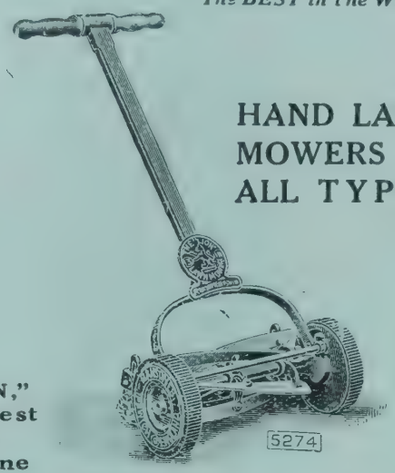

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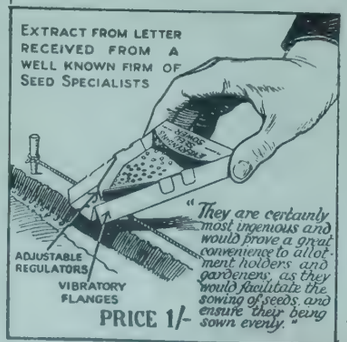
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E. Campbell, best pink, white eye.
Hanny Pfleiderer, creamy white, rose eye.
Antonin Mercie, lavender.
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1 each of above **9/-**; 2 of each **17/-**

PAPAVERS (Oriental Poppies).
Perry's Unique, crimson scarlet.
Rose Queen, rose pink.
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Mrs. Perry, apricot salmon.
Queen Alexandra, clear rose.
Masterpiece, salmon pink.
Goliath, scarlet, enormous flowers.
Perry's White, white.
Lady Roscoe, salmon shaded terra-cotta.
1 of each **8/6**; 2 of each **16/-**.

CAMPANULAS (for Rockeries).
Carpatica Isabel, dark violet.
" **White Star,** white.
" **Riverslea,** rich blue.
Garganica minor, pale blue.
G. F. Wilson, deep blue.
Profusion, pale blue.
Bavarica, blue.
Aggregata, bluish purple.
Stevensii nana, deep blue.
Pulloides, deep purple.
Turbinata pallida, pale blue.
" purplish blue.
1 each **9/-**; 2 of each **17/6**; 3 of each **25/-**.

AUBRIETIAS (12 Grand Varieties).
Argentea, Pritchard's A.1., Purple Robe, Violet Queen, Purpurea, Godstone (New), **Tauricola alba, The Queen** (New), **Leichtlini, Lilac Queen, Lavender, Sov. de Wm. Ingram.**
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AUBRIETIAS
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Strong tufty plants grown in pots for immediate planting out for effect this Spring.

ATTRACTION (R. V. PRICHARD), 1921 Novelty. Immense pale mauve; largest flowers of any, each **5/-.**
AUBREY PRICHARD, rich mauve blue, circular flowers, **1/6** each, **15/-** doz.
BLUE KING, nearest approach to blue, **1/6** each, **15/-** doz.
CHURCH KNOWLE, lovely grey blue, **1/-** each, **10/-** doz.
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ROSEA SPLENDENS, lovely soft rose pink, large size, perfect habit. Award Merit, R.H.S. Spring, 1919, **1/6** each, six plants for **8/6.**
RUSSELL'S CRIMSON, darkest of the red shades, **1/-** each, **10/-** doz.
STUDLAND, clear lavender mauve, **1/-** each, **10/6** doz.
VIRGINIE, rich lavender, white centre, **1/6** each, **15/-** doz.
WARBARROW, pure deep rose, **1/-** each, **10/6** doz.
Collection, one each of the above, **12/6**, other varieties of Aubrietias, **9d.** each, **8/-** doz. Carriage extra.
CATALOGUE *of best rock and herbaceous plants on application.*
MAURICE PRICHARD,
Riverslea Nursery,

THE GARDEN

No. 2575—Vol. LXXXV.]

NOTES OF THE WEEK

[March 26, 1921.

THERE are few gardens, be they large or small, in which a fitting home could not be found for a few Phloxes, of which a splendid selection appears on page 146. They may be increased by the division of the old stools or from basal cuttings, the latter being the better method. There is another way of growing these plants — that is, in pots for conservatory decoration in autumn. Any time from now to mid-April cuttings may be taken and rooted in a frame. Pot them in 5 inch pots, and when sufficiently hardened, transfer to 8 inch pots and grow on with much the same liberal treatment as is given to pot-grown Chrysanthemums. The Phlox illustrated on the front cover of this issue is Elizabeth Campbell, the best of the salmon coloured varieties.

A Beautiful March-Flowering Shrub.—One of the most delicious shrubs in flower at the present time is Osmanthus Delavayi. A low flowering bush against a south wall is now (March 19) wreathed in small clusters of pretty fragrant white flowers; seen from afar against its very dark green leaves. Osmanthus Delavayi, a native of Yunnan, China, was originally introduced by way of France, seeds being sent by the Abbé Delavay to M. Maurice de Vilmorin in 1890, but it was not until about twenty years later that plants were received in this country. Mature bushes grow 6ft. high and are shapely in outline; young plants are, however, rather loose in habit. It should be planted in light loamy soil containing a little peat, and may be increased by means of cuttings inserted in sandy soil in a close frame in July.

A Choice Collection of Freesias.—The choicest exhibit of Freesias shown so far this season, though small in extent, was that put up by Mr. G. H. Dalrymple, of Bartley, Hants, at the Royal Horticultural Society's Meeting on March 8. They were splendidly grown, and showed it by the intense depth of colour and firm substance in the flowers. To name a few: Goldfinch, a deep luminous orange-yellow, though small, was a remarkable flower; Apogee, a very large yellow; Clouded Amber, an art shade; Conquest, a pretty blue shade; and Bartley Rose. As it is the first time Mr. Dalrymple has grown Freesias on scientific lines with pure fertilisers he must be complimented on such success; but this is only a beginning, as we shall see some wonderful results in future years. Unfortunately, some of the Freesias had broken into flames and feathers, like Tulips. Having overcome this difficulty Mr. Dalrymple will in future be able to maintain a stock of all the new hybrid seedlings he has coming on, in original selfs as well as broken forms.—C. A. J.

The Hardy Rock Cresses. — Living flames of colour that come with the spring sunshine are the blossoms of Aubrietias, the well known Rock Cresses, plants of lowly growth that serve as carpets for other plants, for edgings, and for positions in the rock garden where, over jutting crags, they flower for weeks on end. Hardy to a degree, and soon accommodating themselves in new quarters, they can be removed almost up to the time of their beauty stage, with little harm, provided ordinary care is exercised. Some of the Aubrietias are vivid in their tints, among them being Fire King (reddish crimson), Græca (deep blue), Dr. Mules (purple) and Moerheimi.

OSMANTHUS DELAVAYI IS NOW PRODUCING CLUSTERS OF ITS FRAGRANT WHITE FLOWERS.

An Erratic Flowering Plant.—Synthyris reniformis is a pretty little American plant with a family likeness to the Veronicas which appears to be fond of a half-shady place, with cool, vegetable soil. The rich green, kidney-shaped leaves, sharply indented, are evergreen with me, and they grow in a tuft about the size of that of Anemone Hepatica. From the centre of these rise several pale, Pea-green spikes to a height of about 6 inches, around each of which are clustered the clear blue flowers. S. reniformis is not a "star," but its inconstancy in the time of blooming is interesting, and when it gives its blossoms in mid-February, as it has this year done here, it is very charming. Next year it may be midsummer, or even autumn, before it blossoms, and yet another season may induce it to flower in spring and again in September. — A. T. J., *North Wales.*

Dahlias from Seed.—In a recent issue there was a short article by the Rev. Joseph Jacob, in which he states that he hardly ever came across anybody who raises Dahlias from seed annually. He may be interested to know that this is my regular practice and I already have my seeds for this year coming through.—Isaac J. Burgess *Bushey, Herts.*

Wire-Netting for Sweet Pea Clumps.—I note on page 105 an article on the above subject. For seventeen years I have been growing Sweet Peas and have tried wire-netting in place of branches. I found them take kindly to the netting, but I would strongly advise readers to paint the netting green, which makes it more neat and also prevents the wire from rusting, as it would otherwise do after a year or two's use.—H. G. Batten, *Forest Hill.*

Protecting Fruit Buds. — At this time of the year so much damage is done by the birds to the majority of fruit trees and bushes, that some means should be taken to ward them off. An occasional spraying with Quassia extract, or any substance that will make the buds unpalatable, will to a certain extent stop them

FORTHCOMING EVENTS.

March 30.—Irish Gardeners' Association Meeting
April 2.—Paisley Florist Society's Spring Show.

HERBACEOUS PHLOXES to PLANT NOW

The Most Attractive Varieties

ALTHOUGH the species are interesting, the wide popularity of the Phlox is due to the handsome florist varieties of P. decussata, of which there is a large number. The best of these now occupy a position in the perennial border of no little importance, as it is doubtful if this interesting garden feature is ever more attractive than during the season when they are at their best. They may be propagated by division of the roots in early spring or from cuttings and from seed. For ordinary border effect the former method, if carefully carried out every other year, leaving about four shoots to each plant, will result in neat specimens carrying beautiful trusses of bloom. When raised from cuttings the handsome, symmetrical spikes are seen in the highest state of perfection under good culture. The procedure is not complicated, and where a stock of any special variety is wanted it is the safest to adopt. Early in the year the old stools are lifted and put in pots or boxes, and placed in gentle heat. Growth soon follows, and when the young shoots are about 2 inches long they are taken off with a heel and inserted singly in small pots of sandy soil, which are then plunged in fibre over slight bottom-heat. Kept just moist and ventilated occasionally roots quickly form, and with a little care soon become established plants. When sufficiently rooted they are potted into larger pots and removed to a cold frame. In this structure strong growth is made under a free system of ventilation, and early in May they may be put in their quarters. Apart from their value in the flower garden, these plants will be found very useful for the conservatory, where in neat groups they prove very attractive.

The raising of these plants from seed is interesting and, while opportunities may not always be present to carry on cross-fertilisation, seed may always be obtained from the usual sources. They should be sown in March in pans of light soil and placed in gentle heat. When large enough the resultant plants are best pricked out into boxes of similar soil and kept steadily growing in a temperature of about 50°. The first-sized pots are usually 3 inches, and before May is at hand the majority may require a larger size. In any case the aim should be to keep them steadily growing without any check until the weather permits of planting out. From whatever method the number is increased the after-treatment must be well carried out, or the flowers will be very ordinary. A deep rich soil is a real necessity, for they are a hungry race, being possessed of a large quantity of strong roots which quickly exhaust the soil around them. Throughout the summer they should never be allowed to want for water, and the hoe should be freely used among them. During showery weather a dusting of some approved fertiliser helps them wonderfully, and it is best hoed lightly in. Mulching is usually objected to in the flower garden, but wherever it is permitted in the shape of half-rotted manure it is perhaps the best form of summer feeding to adopt.

A Selection of Varieties.—Among the numerous splendid varieties selection of the best is more a matter of individual taste than anything. The following, however, proved most attractive last season: Elizabeth Campbell, John Forbes and General Van Heutsz in shades of pink. Good orange scarlets were noticeable in Etna, Mont Pelee and Flambeau. Excellent whites are Tapis Blanc, Snowdrift and Mrs. E. H. Jenkins. Blues are not very pronounced, being either more in the way of lilac or purple violet. They are, however, very pretty in a number of cases, Bacille Purple Ring, Le Mahdi and E. de Rouge being

PHLOXES IN GENEROUS MASSES, THINLY INTERSPERSED WITH WATSONIAS.
Both may be planted now.

H. J. JONES, ROSY SCARLET.

among them. In rich scarlet are Jocelyn and Esperance, and for a deeper shade Alexandra Shearer and Ægir are well worthy of a place. The average height of all these is between 2½ feet and 3 feet. A further selection should include Dr. Charcot, Parma Violet shade; Rosenberg, fiery red and crimson eye; H. J. Jones, rosy scarlet; Frau V. Buchner, white; C. Edwards, an improved Aubrey Alder; W. J. Robinson, carmine red; Jessie Waters, salmon orange; Florrie Freeman, cerise, handsome truss; Mrs. A. W. Alder, shell pink; the mauve-shaded Mrs. H. J. Jones; Rev. Gilbert Taylor, salmon; Mrs. J. G. Day, pink; Mrs. Louie Williams, deep salmon; Terra Cotta; Dr. Konigshofer, brilliant orange scarlet; G. A. Strohlein, orange scarlet. A few good whites are Frau V. Lassberg, Fiancee, Tapis Blanc (dwarf) and La Neige. F. J. T.

A Night-Flowering Phlox

FOR many weeks last summer Phlox Hoodii was flowering in my rock garden, one of the rarest and most beautiful of many good alpines. In the June heyday of alpine flowers a new plant must be something very good indeed if it is to cut a conspicuous figure in the rock garden, and Phlox Hoodii certainly does that. In that it is a species this Phlox cannot be called new. It is probably as old as the hills from which it came. But as a garden plant it is, I believe, a fairly recent introduction, and it is certainly very rare. I came by a small plant of it four or five years ago, and for the last two years this has been planted out in my rock garden. I put it in quite ordinary loam among limestone rocks in a very hot, sunny position. It is of the Phlox subulata persuasion, with thin, wiry stems and curiously rigid pointed leaves. In winter it bears a strong resemblance to a little spindly, straggly Gorse bush. The stems do not hug the ground as closely as do most of the mossy Phloxes, but lie out stiffly, forming a loose, irregular mat about 18 inches across.

The flowers are an inch in diameter (which is not so large as it sounds) and carried on conspicuously long corolla tubes. The petals are pale lilac rose of wonderful silken sheen, and the colour has the appearance of having been dusted on, especially on the backs of the petals. One side of the back of each petal (the edge which is first exposed as they unfurl) carries a darker dusting of colour than the rest of the flower. The colour which I have called lilac-rose is the most difficult to grasp and define I have ever come across. It is almost as though Martagon Lily had been powdered and dusted on to white satin. During the heat of the day the blossoms remain half closed and quite scentless, but in late afternoon they open out flat and wide, and then they exhale a pungent sweetness vaguely reminiscent of half a dozen flowers, none of which could I name. Perhaps though the old common white garden Pink may be one, and the little maroon-coloured Branderly Orchis of the Alps another.

I wish someone would tell me more about this strange and very beautiful little Phlox, where it comes from, and when it came. Nicholson is silent on the matter. I seem to remember having heard somewhere that it is difficult to propagate. Soft cuttings of young growth would apparently be the obvious way, but the young growths seem to turn hard as fast as they develop. Anyway it does not seem difficult to grow once you get a plant and, that being so, some means will have to be devised for getting more plants. So lovely and apparently easy going a plant has no right to remain rare.

This plant died childless! I tried every sort of cutting under every sort of condition, also layering, all to no purpose. Not a seed did it set. The most resolutely celibate vegetable I ever had to do with! And it died. Farrer's "English Rock Garden" leads me to suppose that perhaps it is not Phlox Hoodii at all, but one of the Gilias, possibly G. pungens. Perhaps it would be more correct and fairer to the plant to say that I killed it, being compelled to transplant it at a bad time of year.

Stevenage. CLARENCE ELLIOTT.

ROSENBERG, FIERY RED AND CRIMSON EYE.

Increasing Begonia weltoniensis.—Where available, cuttings of this fibrous-rooted Begonia should now be got in, as these can be grown into nice-sized plants in a few months. Young plants are always more vigorous and give finer results than old cut-back plants do. Apart from its value for greenhouse work, it can be used with advantage in favourable districts for bedding out purposes

Gaillardias and Pyrethrums should Find a Home in Every Garden

WHEREVER the very showy Gallardias are once grown they are always grown, for by experience their several distinctly good points quickly reveal themselves. They are, for instance, practically weather-proof, a most valuable advantage, in view of the varying meteorological conditions which obtain in our land. Under the hottest sun, when, maybe, other plants are apparently lifeless, or thereabouts, Gaillardias are in perfectly happy mood, raising their brilliant heads of colour well up on straight, stiff stems, as though oblivious to such things as variations of temperature. Heavy rains seem to affect them just as little.

Few flowers can equal them as cut blooms, and on this account they are favourites for home decoration purposes. They need, of course, to be gathered young, *i.e.*, before the ring of petals has become quite flat. As exhibition subjects, too, they are invaluable, and if given reasonable time soon recover after a journey. The plants possess, however, one eccentricity, especially those more than a season old. They sometimes throw up quite good and healthy ground growths, but without flower-spikes. In order, therefore, to obviate such a disappointment occurring, as well as to increase one's stock of plants, any clumps that may not have flowered should be lifted in August, dividing out the rootlets into light soil a few inches apart. Growths emerging from flowering plants may, of course, be treated similarly. It is well to mark the spot, because frequently the leaves die quite away; but this should not be taken as a sign that the roots are dead. In due time they will spring up. Apart from a dressing of some insecticide, soot or lime, no further attention will be necessary until removal in spring to more permanent quarters in the border, either singly or in clumps of three or four, the latter giving a bold effect.

Modern Pyrethrums.—The value of these flowers in the garden during summer and autumn

FRAU V. BUCHNER, A GOOD WHITE

cannot well be over-stated. Since some of our hardy plant specialists took them in hand, and commenced crossing and selecting the best obtainable, some very beautiful varieties have been raised. In the Pyrethrums we have both single and double forms, and they are exceedingly popular, though I must confess to a partiality for those with single blossoms, the beautiful glowing crimson-scarlet James Kelway being an ideal flower of this section. Apart from their use in the herbaceous border, I think these modern Pyrethrums might well be grown in large lawn beds, one variety massed in a bed. I have seen this attempted on one or two occasions, and although the work was only done in a half-hearted manner, the effect was excellent. As already stated, there are now so many beautiful varieties to select from that quite a good colour-scheme of beds might be worked out on the lines laid down by Miss Jekyll in her book, "Colour in the Flower Garden." Nor must we overlook the value of Pyrethrums as cut flowers. Their slender, graceful stems are ideal for arranging in vases and large bowls, and they last quite a long time in water. This is where they score over the more stately Delphiniums, which so soon drop their exquisite spurred flowers when cut.

Pyrethrums can be induced to flower again in the autumn, and the work necessary to bring about this desirable end is not very difficult or irksome. Before seed has had an opportunity of forming, they must be cut down quite close to the ground, leaving the natural basal foliage of the plants intact. After lightly stirring the soil around the plants, place a 2in.-thick layer of manure around them. If this work is carried out immediately after the first flowering, practically all the Pyrethrums will give us their beautiful and pleasing flowers again in September. B.

PLANTS FOR A SHADY ROCK GARDEN

HAVING read Mr. S. Arnott's interesting article on "Plants for Sunny Limestone Rock Gardens" (page 76), I thought I would endeavour to give a selection of plants that will thrive in a damp and shady rock garden. The majority of alpine plants like sun, but as every rock garden cannot be made to suit the requirements of such plants, it is necessary to obtain plants that will grow and give good results under less favourable conditions.

I will commence with Acæna microphylla, which will soon make a dark corner look quite bright with its greenish purple leaves and crimson, spine-like flowers; also the Ajuga or Bugle Flower, another creeping plant. There are several varieties, which produce lovely blue flowers. Anchusa myosotidiflora is a lovely plant for which a suitable place can be found. Anemone apennina, A. blanda, A. nemorosa and several other varieties must not be left out, and will give delightful results, especially as they are among the first to beautify the rock garden with their lovely shades of blue and white flowers. The useful little Arenaria balearica comes in very handy for the edges and cracks of the stone-paved paths and steps, also for any little nooks which are not suitable for other plants. We can also put some of the Aubrietias among the collection, such as A. præcox, A. Prichard's A 1, A. Lavender and A. Blue Bedder.

Calamintha alpina is a useful little plant and will grow in any position, except in very shady parts. Next we come to the Campanulas, some of which are more suitable for shady positions than others, such as C. pumila, C. p. alba, C. pulloides and C. Profusion; their greatest enemies are slugs and snails. Cardamine or Lady's Smock will be found quite suitable for a damp position. The pretty foliaged Epimedium, of which there are several varieties, are shade-loving plants and are very ornamental. The hardy Heaths are quite in order for the higher slopes of the rock garden and will brighten their abode for a considerable time. Fuchsias can be planted in the lower regions and will give satisfaction by the graceful, ornamental foliage. Who can despise the lovely varieties of the Gentian, which loves the shade if planted firmly in a stiff loamy soil?

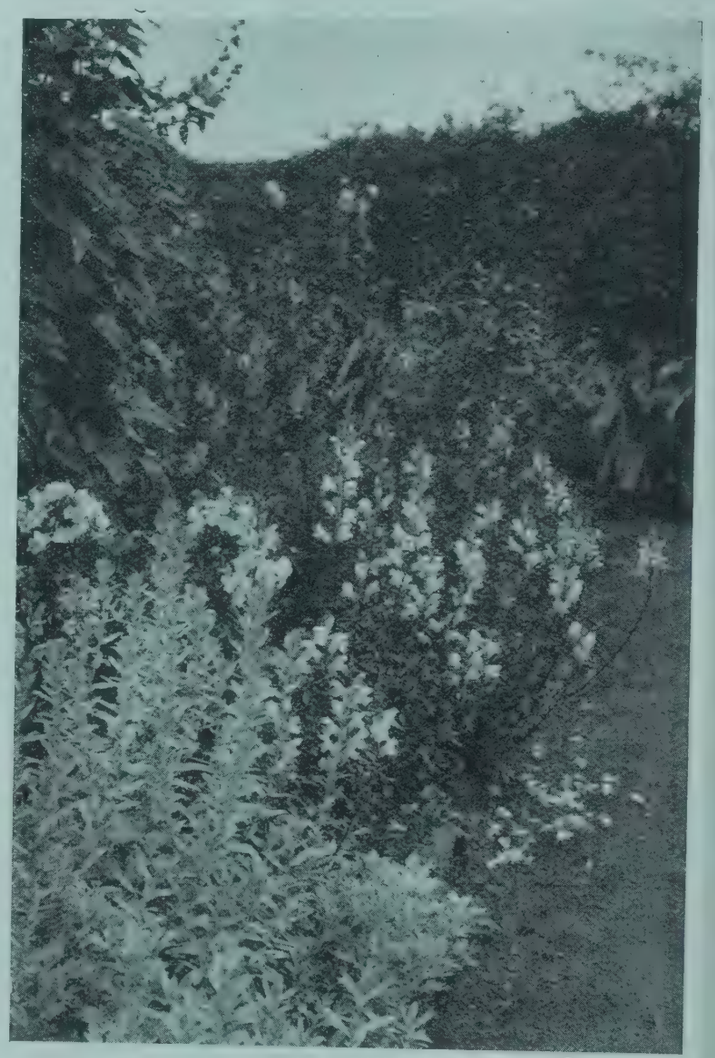
These are only a few of the beautiful plants "some not widely known," which will overcom the troubles of a shady, damp rock garden. Ther are numerous other varieties, which I will give i brief. Linnæa borealis, Lysimachia Nummulari aurea, Mentha Requieni, Nierembergia rivularis Primulas in variety, Ourisia coccinea and no forgetting the dwarf Iris Fieberi, I. nudicaulis I. Princess Louise, I. pumila cœrulea and othe varieties, which give a lovely effect and help t relieve the monotony of the dwarf alpines.

Altrincham. R. C. JOLLIFFE.

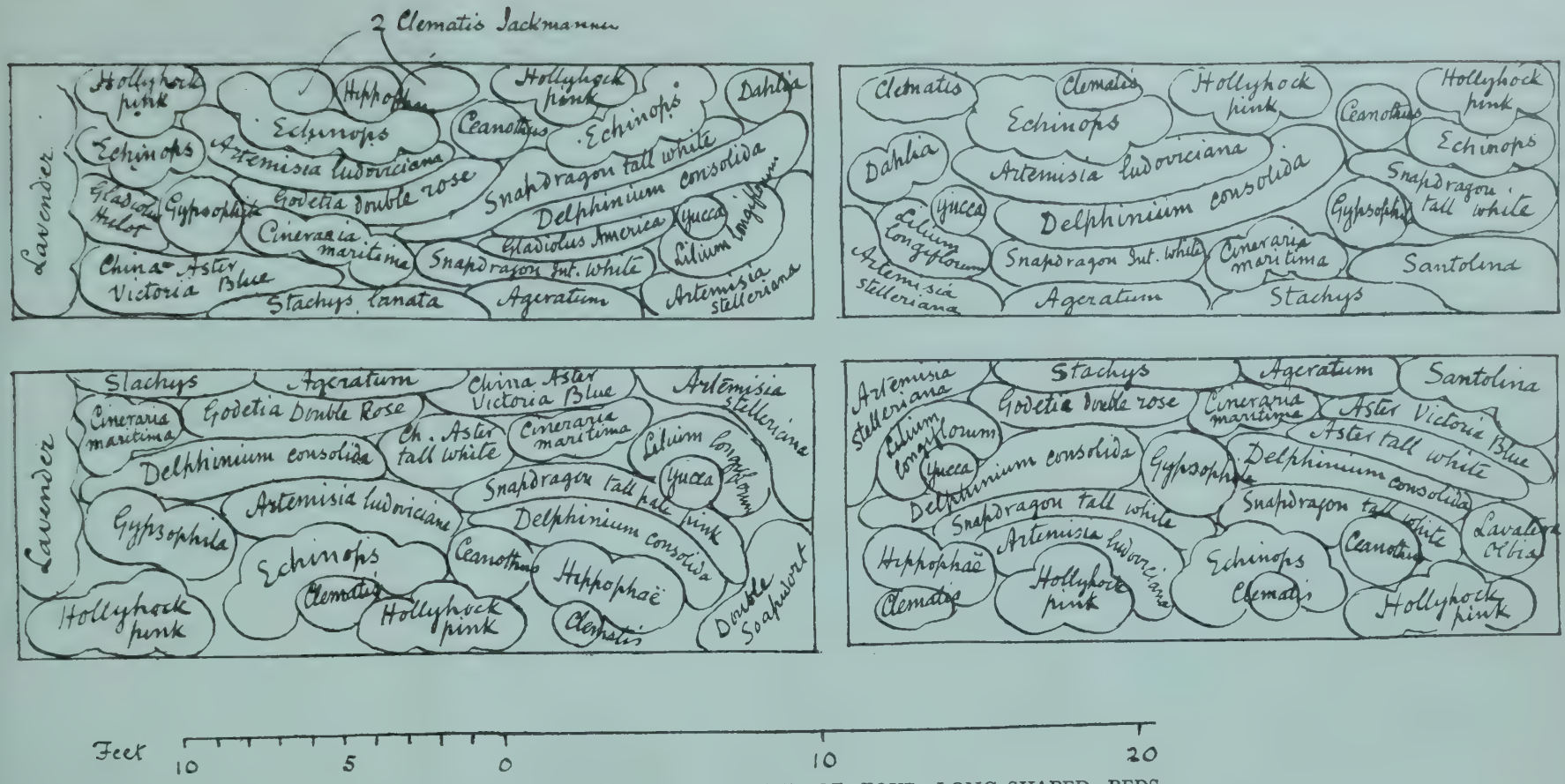
How a Little August Garden was Made Effective with Pink and Purple Flowers

BY GERTRUDE JEKYLL, V.M.H.

IT has been a great pleasure and interest during recent years to make out a plan for a little garden of restricted colouring for the month of August, and it has met with so much appreciation and encouragement from those whose opinion I most value, and so much simple admiration from many who have no special understanding of colour combinations, but who cannot help seeing that it is pretty and distinctly effective, that I am now year by year trying to improve it in detail. I am sending a sketch of its general arrangement, in order that any who may feel an interest in such a plan, and may like to continue the experiment for themselves, may have something as a suggestion to begin upon. The colouring is of purple, pink and white flowers, with a good deal—in fact, a general setting—of grey foliage. The plants that make the greater part of the effect are a good clear pink Hollyhock, Clematis Jackmani and a bright purple form of Delphinium Consolida. What may be called the secondary plants are Snapdragons (pale pink and white), China Asters (purple and white), the good double pink Godetia, and purple and pink Gladioli. As the little garden consists of four long-shaped beds with an axial path and a cross path, the ends nearest the intersection are treated alike with a Yucca filamentosa and a group of Lilium longiflorum. I have not been able to indulge myself with the Lilies of late years, but as they made a good show in happier times I have put them in the plan. The grey plants are the low-growing Artemisia Stelleriana at the angles, and a good deal of the tall A. Ludoviciana in other parts of the border. This is a most accommodating plant, for it can be used up against the Hollyhocks its full height of 5 feet, or it can be cut down to any height that may best suit its neighbours. Then there is the fine silvery white of the best form of Cineraria maritima, and, for front edges, the ever-useful Stachys lanata. Some well-grown plants of Gypsophila paniculata, that spread to nearly 4 feet, also come in as grey colouring. As there are not many pink flowers available, I had hoped to use Lavatera Olbia in the back parts of the border, and had planted some last year. They have been a disappointment, for I only learnt too late that there are two forms of this bush, and it is evident that the one I have is the wrong one—a rank, lush-growing thing 10 feet high with a great mass of leaves and small, poor-looking flowers. It was



WHITE SNAPDRAGON AND ARTEMISIA IN THE AUGUST BORDER.



THIS LITTLE GARDEN CONSISTS OF FOUR LONG-SHAPED BEDS.

The colouring is of purple, pink and white flowers, with a general setting of grey foliage.

grown from seed supplied by one of our first houses, and from the catalogue description should have been right. I should be greatly obliged to any reader of The Garden who would kindly put me in the way of obtaining the better kind. One Lavatera only is shown on the plan, but more, if of the right kind, would be desirable. The Dahlias are of the Star kinds, white and cool pink.

As with all other border gardening, it is not enough to plant and then expect it to do all that we wish without further care, for to have it right it must be constantly watched and guided and tended. The first thing will be to see that the Clematis Jackmani, which makes growth early, is trained in the right direction on Pea sticks in the case of those near the Echinops, so that it will come just over it and finally lie on its tops when the colour of the Globe Thistle begins to go; for the Clematis is much the longer lasting of the two. Any other August-blooming Clematis of purple or lavender colour can be used, but there are not many that give the mass of bloom of the old Jackmani. The beautiful Perle d'Azur is noted for trial. The Jackmani is the original kind, of bright purple colouring; not the so-called improved, which is redder and darker. Some of the Clematis are trained into the Sea Buckthorn (Hippophae); this is kept trimmed to a suitable height and gives the setting of grey foliage that is desired. The next duty will be to cut out the blooming shoots of the Stachys, for it is the carpet of silvery leaves that is wanted, not the lanky, ineffective bloom; as soon as this is cut away the plant spreads at the base. Then as the Artemisia Ludoviciana grows, it is topped and topped again at about fortnightly intervals, to make it do exactly as one wishes. The two annuals, the pink Godetia and the Delphinium Consolida, are sown in place. After the first year the Delphinium probably comes up self sown, but it is better to save selected seed and to sow early in March. As soon as flower-buds show, the whole tops are cut off, and this cutting back is repeated till the middle of July. This is not only to make the plants bushy and more densely bloomed, but to keep them back till August. The bushes of Ceanothus are the fine variety Gloire de Versailles; they are kept in compact bush form by being pruned back after flowering.

A Dwarf Japanese Columbine

Columbine Growers who are on the look out for species or varieties of their favourite flower may be reminded of the existence of Aquilegia flabellata, a dwarf Columbine which came to us from Japan some years ago and has become a favourite with a few of the keenest hardy plantsmen who own a rock garden or choice border. It is only about a foot high (less in some soils), and is quite a good Aquilegia with flowers of wonderful size for its other dimensions, but not out of proportion. I suppose there is a blue variety, but so far it is a white one which is to be seen in gardens, and very pretty it is indeed. It is a true hardy perennial, and a long liver in ordinary soil. Plants may be raised from seeds quite easily, either by sowing under glass in pots or pans in spring, or in the open in early summer to bloom next year. S. Arnott.

PURPLE CLEMATIS, PINK HOLLYHOCK AND WHITE SNAPDRAGON WITH GREY FOLIAGE.

Brilliant Gardens and Brighter Surroundings

Grouping Tall Stately Herbaceous Plants for Summer Effect

BY OWEN THOMAS, V.M.H.

THE plants I mean are such as the Hollyhock, Delphinium, Rudbeckias of sorts, the tallest of the Phlox, Bocconia, Eremurus, Helianthus, Asters, Chrysanthemums and many others, to say nothing of the Dahlia. The latter, it is true, is not a hardy plant, but it is as easy and economical to store through the winter as the Potato, and succeeds equally well when the tubers are planted from the storeroom or shed. (Strong tubers do not benefit from the codling under glass generally given them.)

THE STATELY HOLLYHOCK SEEN TO ADVANTAGE IN A LAWN BED AGAINST A BACKGROUND OF DARK GREEN FOLIAGE.

I am far from ignoring the fact that such plants already afford their valuable aid in brightening and greatly helping to popularise the herbaceous border by their bold and striking presence; but at what a sacrifice is their services rendered. All plants possess individualities of their own, not only of flowers, but of foliage and habit of growth, and the full beauty and value of such plants cannot possibly be appreciated to the full where their lower foliage is crowded out and destroyed by the too close pressure of other surrounding plants, as is the case with such plants in borders.

I am led to make these remarks chiefly by the splendid effect that a few large circular-shaped beds of Hollyhocks and Dahlias have produced when planted on the lawns at the Royal Gardens, Kew, during the past few years. A bed of Hollyhocks of a semi-double pink variety (Palling Belle) has been planted every summer for some years on the lawn not far from the south end of the rock garden. It is a large circular bed. The plants must have been strong and well rooted at planting time and the soil well prepared, because when I saw them on two occasions every plant, I thought, was perfect and a picture of good health; the outer rows of plants being well feathered with foliage to the ground, and the flowers equally as perfect and well developed. The setting of the bed on the lawn in the midst of a rare collection of Conifers and shrubs was most delightful, the light green of the lawn with the darker green of the shrubs helping to intensify the brilliancy of the flowers.

Some little distance away, still on the lawn and among the Conifers, shone another similar star of equal brilliancy, if of less stateliness, in the way of a large bed of a crimson Dahlia. Apart from the attractiveness and pleasure given by such floral exhibits among the more sombre tints of the evergreens, they attract to themselves a large body of the public, who, possibly, if it were not for the brightness of the flowers, would be denied the pleasure of witnessing many other treasures of the garden which abound on all sides and which are seldom seen by the public.

It is not too much to say that similar opportunities to these present themselves in many gardens, where it would be possible at little cost to add much brilliancy of colouring and a brighter atmosphere to the surroundings of our homes during summer, and that such opportunities should not be neglected. Shelter would be needful, as also the deep digging and generous manuring of such beds Points to avoid would be proximity to large trees and too hot a position.

Floating Flowers in Bowls

THE arrangement of flowers is surely a matter of taste, and how dull the world would be if we all thought alike. The only manner of floral decoration which I would utterly condemn is that where beautiful blooms are left to droop without sufficient moisture to keep them fresh. We all know the story of the beauteous damsel who found pleasure in dancing round a man's head on a charger, and surely it is a much simpler pleasure to sit round a bowl with the floating head of a Dahlia, even though the bowl may be much too small for the size of the bloom and give it a clumsy appearance; still we can see the full beauty of the flower which we rarely do when it hangs on its bush. I use the word hang advisedly, as so many of our handsome Dahlias are spoilt by the weight of their heads. I have always found when "doing" the flowers, that if I use whatever comes to hand that many excellent effects can be achieved. I remember once when we were going to have a very small company for lunch, one of the guests sent a telegram to say that she was bringing friends. The table was all ready laid when the message arrived; another leaf had to go in, but what could be done for more flowers. There was a large silver bowl of beautiful coloured Tulips with which no other flower would sit in sweet accord. The only thing I could find was some lowly Violets, so I gathered a few and found some shallow silver bowls, not more than an inch high; I popped the Violets in, some peeping over the side, the rest floating with their short stems and small leaves on the surface of the water. It sounds all wrong, but so charmed were two American ladies with the arrangement that they insisted on carrying the bowls with them into the drawing-room. At present I have a clear glass bowl—quite plain save a cut star at the bottom—about 10ins. across, sitting in the middle of an oak table; under the bowl is a Chinese blue mat, bordered with black velvet and in the bowl is water. On its surface repose thirteen Lenten Roses, each has a stem of 2ins. or 3ins. in length which allows the attachment of a leaf. A friend on seeing them enquired if the flowers were real, and then exclaimed, "they are the most beautiful things I have ever seen." The setting of their surroundings helps considerably as the Hellebores never looked half so beautiful when in an earthenware bowl and with a dowdy background. When I have been hard pressed for flowers I have carefully gathered Apple blossoms—which the busy little tit has nipped off the trees when searching for grubs—and floated them, with small green leaves, on water in a small and shallow black bowl. I have also used the fallen flowers of the large Chinese Primulas, Hoya, Stephanotis, St. John's Wort, Gardinias, Magnolias and Water Lilies, but the latter I cannot keep awake when the sun ceases to shine on them, so I have given them up in despair. Poinsettias, after they have lost their green leaves, are a legitimate prey for the bowl treatment and I like them very much when I can find a good variegated leaf from the stove house to keep them company in their floating. But on the whole, flowers soon get messy with water round their necks and as there are so many other charming ways of using them, I only float them when in dire necessity. EUPHEMIA.

STANDARD ROSES ON LAWNS

Examine Trees and When Necessary Replant Before it is Too Late

THE standard Rose has often been condemned on account of its short life and its mop-headed look, many thinking it quite out of place. A careful examination of all trees should be made before it is too late to replant, or else gaps may occur in a month or so. We have in past years suffered severely in this respect, and I fear there are many similarly situated. I find it is a good plan to pot up a few medium-sized standard Roses and plunge them in the open, as these can be readily removed at any time and placed in the gaps if losses occur in the late spring and early summer months. I have observed that of late years many very weak Briars are budded that would have been better if left a little longer, and it is often these weak stocks that succumb to severe weather. The soil in which Roses are planted often has much to account for in the way of losses, and I find on our light soil, without abundant supplies of moisture, they suffer dreadfully in hot seasons. As our Roses are mostly on turf, I find it a good plan to leave a circle some 18 inches to 25 inches round each stem, and when planting to leave some few inches in depth (4 inches to 6 inches) for a good mulch of manure. I find cow manure gathered fresh out of the pastures the best, and it is applied every few weeks and well washed down to the roots weekly. On poor light soils I believe this to be the best manure, as it is cool and moister than horse droppings. I find it also answers as a winter dressing when in a decayed condition, and use it largely for dwarf Roses. One great disadvantage in using any manures near Grass edgings is the rapid growth of the Grass, and a cheap but effectual means to check this is to use iron sheeting or zinc placed round the edge next the turf. This is out of sight, and when placed neatly round does not look unsightly and keeps the manure from the turf. Another advantage is that it prevents the mowing machine injuring the stems of the Roses. Many standard Roses fail with us after a few years, while others stand many years. No doubt this is owing to our wet moist position. I think Roses suffer much more from excessive moisture and cold than from cold alone, as this season many have died that withstood the dry frosts of ordinary winters. I believe much damage is often caused to standard Roses by allowing them to remain for years without lifting. Deep planting is also much at fault, and newly made ground should be allowed time to subside. When standard Roses are planted in beds the lifting is is an easy matter, but when on turf a little more trouble is given; still, if carried out every other year early in the autumn, according to the season, it is of great benefit to the plants, more especially on poor soils. By lifting the plants the suckers can be cleared away, the long roots properly shortened back, thus producing short fibrous roots, which are the chief support of the stocks. By so doing many years may, I believe, be added to the life and vigour of the Roses. C. B. G.

WISDOM IN ROSE PRUNING

More Often than not Roses are Pruned too Soon, and Early Growths get Frost Nipped. Pruning May be Left Until the Last Week in March

PRUNING naturally divides itself into two distinct operations: (1) Removing the useless shoots; (2) Shortening back those shoots that remain. In the first place, all old, decayed, and weakly shoots should be cut out entirely with a sharp pruning knife, also the pithy growths, however strong. This having been done, the pruning proper is effected by cutting back the sturdy, well ripened shoots that are left. To the beginner the ruthless way in which an exhibitor decapitates his Hybrid Perpetuals appears little short of murderous, for an exhibitor thinks nothing of cutting down his plants to within a few inches of the ground. And why is this? Because he knows that the harder he cuts his plants the stronger will be the shoots that proceed from the few remaining leaf buds. The Hybrid Teas should be less severely pruned. In the case of the Teas the knife need only be sparingly used, just shortening back to half their length the shoots that remain after the dead and very pithy ones have been removed. If the blooms be not required for exhibition, the shoots may be left rather longer than above directed, especially in the case of the Hybrid Perpetuals. For whatever purposes Roses are grown, the dead, the twiggy, and unripened or pithy shoots should be cut clean out, also any wood more than two years old. However long or however short the remaining shoots be left, care should be taken that the cut be made just above a dormant eye making outwards. After a severe winter it will be only necessary to remove the injured growths, and cut back the few remaining shoots until sound wood be met with—that is to say, where the pith of these shoots ceases to be discoloured, even, if necessary, below the surface of the beds. As to the time of pruning, this will depend to a certain extent on the locality, whether an early or late one, but as a general rule this operation should be carried out at intervals during March for the Hybrid Perpetuals and Hybrid Teas, leaving the Teas and Noisettes to be dealt with in April

PRUNING A STANDARD ROSE.

1.—*Commence by cutting out all dead wood.* 2.—*Always prune to a bud pointing outwards.* 3.—*Pruned for garden purposes.* 4.—*Pruned for exhibition blooms.*

PERENNIALS FOR COLD DISTRICTS

By following this Selection a Wealth of Perennial Beauty may be Obtained even in the Coldest Parts of the British Isles

COLD and austere as is at times the climate of the northern parts of the United Kingdom, there are yet many of the best hardy perennials for the border of hardy flowers which flourish there, and by whose aid the garden may be rendered beautiful for the greater part of the year. In truth, there are flowers which are never seen so fine as in the cool summers of the north, and some of them attain there a grandeur which is not surpassed in the gardens which we consider more favoured by the climate than there. The number is too great indeed for anything like satisfactory treatment, but a sufficiency will be dealt with to give an idea at least of the wealth of perennial beauty which may be secured in the north. Alpine plants are not included.

Achillea.—There are few of the Yarrows, or Achilleas, which cannot be cultivated in the gardens of the north, although the taller ones are not, as a rule, of exceptional merit. The rose-coloured variety of A. Millefolium, the common Yarrow, is useful, but is too spreading at the root for choice borders. The best of the Achilleas are the double forms of A. Ptarmica, which give double white flowers. The Bride and The Pearl are the finest forms, and these can be cultivated in any soil.

Aconitum.—One may with all confidence include any of the Aconitums, or Monk's-hoods, in the selection of flowers for the north. A. autumnale, or Fischeri (of Reichenbach), A. Ackermanni, A. Fortunei, A. Napellus and the variety albus, A. Lycoctonum and A. variegatum are among the best. The climbing A. Vilmoriana and A. volubile do fairly well also. Any soil will suit these useful hardy perennials.

Adonis.—On the border line between alpine and taller perennials are some of the Adonis. A. vernalis and A. pyrenaica, both yellow, are the finest for the border and are quite hardy in the north in common soil. A. amurensis is too early for the coldest places, though hardy.

Actæa.—Actæa spicata, the common Baneberry, is a useful little plant, though its beauty lies in its berries mainly. The best form is rubra, which has red berries. It likes shade.

Alstrœmeria.—Of these fine flowers, which are not free from tenderness in some places, A. chilensis and A. aurea may be grown in the warmer localities.

Anchusa.—The forms of Anchusa italica are not too hardy, and, as in the south, such fine Alkanets as the Dropmore variety and Opal require renewal every two or three years at the most. A. sempervirens is a native of Britain and can be grown.

Anemones.—Most of the Anemones are hardy in the north, but for the border such as A. japonica and its varieties are the best. They do splendidly, especially in good rich soil. A. vitifolia is not so hardy.

Anthericum.—Anthericum Liliago and A. ramosum are hardy and do well; and so do the forms of Asphodelus ramosus, the King's Spear. Paradisea or Anthericum Liliastrum is also good.

EVEN IN THE COLDEST PLACES THE RUDBECKIA HERBSTSONNE, OR AUTUMN SUN PRODUCES A WEALTH OF RICH YELLOW FLOWERS.

Aquilegias.—These generally flourish in the cool climate of the north, and practically all may be cultivated with every prospect of success.

Asters, or Starworts.—It is unnecessary to say much about these, as practically all will do well in the north. A. grandiflorus is too late for most places, however.

Bocconia.—The stately Bocconias are a success in northern gardens and form striking ornaments in many borders. B. cordata and B. microcarpa are both excellent.

Campanulas.—No one can go amiss with any of the taller Bellflowers, some of which are of great beauty in the north, the cool atmosphere contributing to the longer duration of the blooms. Few present any difficulty, and almost everyone is beautiful.

Centaurea.—Practically all the taller Centaureas, or Cornflowers, in cultivation are good growers in northern gardens and may be employed with advantage, growing in any common soil.

Cone-flowers.—We find few flowers so useful for autumn and summer display in the north as the Rudbeckias or Cone-flowers. R. californica, R. speciosa and R. laciniata are all good. The Echinaceas, which are practically red and purple Cone-flowers, are not so long lived, but are very fine in their way.

Coreopsis.—Some of the Coreopsis, such as C. lanceolata and C. grandiflora, occasionally flower themselves to death, although nominally hardy. C. tenuifolia and C. verticillata are both more perennial and enduring in light soil.

Delphinium.—The noble Delphiniums are the glory of many a northern garden, and any species cultivated in the south will flourish as well in the north. D. cardinale and D. nudicaule are not, as a rule, long-livers, however. The glorious hybrids are the best in every way.

Dictamnus.—Dictamnus albus, or Fraxinella, is very useful and quite hardy in the north. The form called caucasicus is a handsome one and far surpasses our common Fraxinella.

Doronicum.—These Leopard's Banes are useful flowers, especially D. plantagineum excelsum, which flowers in spring and autumn both. D. caucasicum and any other may be cultivated successfully.

Echinops.—Globe Thistles are effective in the border, and E. ruthenicus and E. Ritro are among the best, both being hardy in common soil.

Epimedium.—Barrenworts make nice hardy plants for the border, their flowers and foliage alike being pleasing in a high degree. All the species in nurseries are hardy.

Erigeron.—E. speciosus is the best of the border Erigerons and is quite hardy. E. Roylei and E. glaucus are also hardy, but are only suited for the front row.

Erodium.—E. Manescavi is the finest of the larger hardy Heron's Bills, but one called E. hybridum is also excellent for the northern garden.

Eryngium.—Excluding some of the foliage Sea Hollies, such as E. Serra and, in colder quarters, even E. pandanifolium, these fine plants are practically hardy. E. alpinum, E. amethystinum, E. planifolium, E. oliverianum and E. Bourgati are as good as any.

Eupatorium.—E. purpureum is the only one worth having in the border, and is not in itself a choice thing, though hardy enough.

Galega.—In the Goat's Rues we have some good plants, such as the varieties of G. persica and G. officinalis. These, with G. flexuosa Hartlandi, are all capital in the north.

Gentiana.—Of the taller Gentians G. asclepiadea and G. Andrewsii are among the best for our purpose. G. lutea is a shy bloomer and rather coarse.

Geraniums.—Cranesbills are excellent and afford us a good variety of hardy plants. G. sanguineum and its variety album are very pretty, and the taller pratense plenum is one of the best. G. ibericum, G. nepalense, G. pyrenaicum and many more are quite enduring in a northern climate.

Geum.—G. chiloense and G. montanum are quite hardy and are pretty border plants. Mrs. Bradshaw is superb in the north.

Gypsophila.—The popular G. paniculata and its double variety, with G. acuta, are excellent in the north in ordinary soil.

Helenium.—There is a pretty general consensus of experience that practically all the Heleniums are good for the northern garden. H. pumilum magnificum is one of the best but all are worth having.

Helleborus.—Christmas and Lenten Roses do well and, with a little shelter given by a hand-light, the former are lovely in gardens far north.

Hemerocallis.—These Day Lilies are practically all hardy and flourish. In cottage and other gardens there are good clumps of some of the older Hemerocallises, such as H. flava, H. Middendorffii, H. disticha fl.-pl. and others, and the newer ones have been tried with success.

Inula.—We find I. glandulosa and I. Royleana good plants, proof against our northern winters and excellent in every way.

Irises.—Apart from the bulbous Irises, bulbous plants not being included in these notes, we have every confidence in recommending the bearded and beardless Flag Irises, and such species as I. sibirica and its varieties. I. susiana even flowers in one or two favoured northern gardens, but is not reliable.

Lupines.—Lupinus polyphyllus is a capital northern plant, and L. nootkatensis also proves hardy. The former thrives specially well and in its numerous colours and tints is appreciated more than ever.

Lychnis.—There are few finer plants in our gardens than L. chalcedonica, whose scarlet flowers are so showy. The double variety is excellent. L. alba plena, L. dioica plena and several others are worthy of cultivation.

Malvas.—Such Mallows as M. moschata, rose or white, are to be seen in many northern gardens and are thoroughly satisfactory.

Mertensia and Pulmonaria.—Mertensia sibirica and Pulmonaria officinalis are useful, though some consider the latter rather coarse. It may be had in blue, white, and red of various shades.

Monarda.—M. didyma, with its brilliant scarlet flowers, is a splendid thing for a cool, moist border. M. fistulosa is also hardy, though in every way inferior.

Œnothera.—Several of the Evening Primroses are very fine in the north. Œ. marginata is more of a rock garden plant, but when established is fine. Œ. fruticosa is one of the best day bloomers. Œ. Youngi plena is good, but the double Œ. M. Cuthbertson is finer still.

Orobus.—Such dwarf Vetches as Orobus vernus and O. aurantius are both suitable for our object, and there are others of this class of the Lathyrus, or Pea. S. Arnott.

(To be continued.)

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Globe Artichokes.—Clear away the winter protection and apply a good mulching of rotten manure and fork it in. Where offshoots were taken and potted up in the autumn, and grown in cold frames, the present is a good time to put them in their fruiting quarters. If none of these is available and there are vacancies to be made good, some of the more robust clumps may be divided. Besides the many excellent dishes which can be made from the Globe Artichoke it is interesting to note that the dried and powdered leaves are sometimes used as a remedy for intermittent fever, and that the flower of the plant has properties similar to those of Rennet in that it curdles milk.

Seeds of Broccoli, Kales, Brussels Sprouts, and early and late Cauliflowers, should now be sown for main supplies. Seeds of Celery, too, and Celeriac for principal supply should be sown on a declining hot-bed. Sowings of Spinach, Turnips, early Carrots and Lettuce must be made as requirements decide.

Tomatoes.—Pot on successional batches as ready and aim at producing short-jointed wood by growing close to the glass and giving plenty of air upon all favourable occasions. When a good set has been obtained on the lower trusses of the early batch some assistance should be given the plants by top-dressing or applications of manure water several times weekly.

Hardy Fruit Garden.

Grafting.—Of the several methods of carrying out this operation that known as crown or rind grafting is, perhaps, the most suitable for medium or large trees, and it is, as a rule, upon such trees that the operation would be necessary in a private garden. Reasons for grafting may be summed up under three heads, namely, the increase of some especial or favourite variety; to restrain or increase vigour; and, thirdly, in some cases to make varieties more adaptable to certain soils. The best time to do the work is just when the sap is on the move and is carried out by cutting the scion obliquely for about 2ins., leaving a shoulder at the beginning of the cut to rest upon the top of the stock. The bark of the stock must then be cut down for a similar distance and the graft or scion fitted in, afterwards binding round with raffia and covering with clay or wax to exclude air until the union is completed. Two essential points to bear in mind are that the operation should be done with a clean sharp knife and use broad strands of bast evenly and firmly when binding. Success lies in the nicely fitting together of stock and scion. The trees to be re-grafted having been headed back as advised in a previous calendar, only a few inches of stock need be removed now before the operation is done.

The Flower Garden.

The Hardy Fernery.—Where such exists the present is a good time for a thorough cleaning and overhauling to be done by cutting away the old fronds and clearing up other rubbish. Where leaves have fallen and decayed they should be pricked into the soil and more added if necessary, taking care of the young fronds which, in some cases, may be just unfolding. During the summer months the hardy fernery may form quite one of the most delightful retreats of the garden. As a stroll through the woodland portion of the grounds may be interesting, equally so may one be where in shady nooks and cool corners hardy Ferns are well cared for. Many of the beautiful gardens of England have portions which would form admirable spots for ferneries to be made. One of the best hardy ferneries I know of exists at Danesbury, Welwyn. This fernery is mentioned by Mr. Robinson in "The English Flower Garden," and was, in the first instance, mainly the work of the well known landscape authorities, Messrs. Pulman and Sons.

Plants Under Glass.

Chrysanthemums.—Some will be ready for 5in. or 6in. pots and the compost may be a little stronger than is necessary for those in small pots. Use two-thirds good loam and the remainder nice sweet leaf-soil; a small portion of spent Mushroom manure may be added after rubbing it through a ½in. sieve. To each wheelbarrow-load of soil add a little wood-ash, bone-meal, soot and silver sand. An occasional fumigating should be given to keep plants clean, and the frames kept fairly close for a few days to enable the plants to get a start in the new soil. Cover the frames well up on cold nights.

Malmaisons.—Old-established plants are now growing freely, and where well supplied with roots an occasional stimulant of some approved Carnation fertiliser may be given. Clear soot-water is also helpful for a change. Organic manure-water is best avoided. Air should be freely given and the houses frequently fumigated to ward off all possible attacks of aphis. From among the many varieties I think Duchess of Westminster is one of the most profitable kinds to grow in quantity.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—For main crop purposes a sowing of reliable sorts must now be made. Choose

A LOW SUNNY WALL CLOTHED WITH A PRETTY FORM OF A NATIVE STONECROP.

A Stonecrop for a Sunny Wall

(SEDUM ALBUM)

A pretty form of this native Stonecrop is commonly sold as Sedum murale, a specific name which has no botanical authority. In other forms it is also known as S. neglectum and S. formosum, but the one in question is the best. Whereas many of the Stonecrops are a little wanting in interest, a mass of this in rockwork cannot be passed without admiration. Besides its neat form of spreading heads of bloom about 1½ inches across on 6-inch stems, it has the charm of delicious colouring; a general tinge of delicate pink, mingling with a groundwork of warm grey purple from the colour of the stems and the short, fat little leaves.

G. J.

of robust constitution. For a red variety we find Standard Bearer hard to beat, while Wright's Grove White is also one of the best, being crisp and of good flavour. Sow the seed thinly in boxes of fine soil and place in gentle heat. Seedlings from the early sowing should now be ready for pricking out in boxes or hotbeds. Aim at sturdy growth and keep the seedlings as near the glass as possible, giving free ventilation as weather allows.

Broad Beans.—A good sowing of these should again be made, using the Longpod varieties.

Peas.—Further sowings of Marrowfats should be made, still using early sorts; Gradus and William I Improved, while Early Morn should be sown a week or two later, as this Pea, although of quick growth, is rather partial to a warm situation and comes away better if not sown too early.

The Hardy Fruit Garden.

Raspberries.—Canes that have been recently planted should now be cut down to within 6ins. of the ground so that strong growths may be assured for next year's fruiting. If the newly planted cane is left full length the results will be disappointing, as the plant has not the necessary vigour to perfect its fruit and produce strong canes at the same time. Old canes tied to wires or stakes may now be tipped back a few inches.

Strawberries.—Where spring planting is favoured new plantations of these may now be made. It is essential that the ground be in good heart, and if well trenched and manured during the autumn it should now break down freely and the plants have little difficulty in establishing themselves. Runners that were planted in frames or reserve borders for this purpose will now be starting into growth, so should be carefully lifted and transferred to the new ground, planting in rows 2ft. apart and allowing 15 ins. between the plants in the rows.

Plants Under Glass.

Abutilons.—Cuttings of these root readily now, and are well worth growing for decorative purposes. By judicious pinching and by keeping the plants when in a young state near the glass nice bushy specimens may be had.

Achimenes.—Start the tubers of these showy subjects in a warm house, afterwards moving into cooler quarters. Of easy cultivation, Achimenes have become exceedingly popular owing to the remarkably fine varieties now obtainable. They are splendid for grouping in the conservatory, while for hanging baskets they are invaluable. When potting up use a fair percentage of sandy peat, and when in the growing stage spray occasionally.

Half-hardy Annuals.—Sowings of Stocks, Asters, Phlox Drummondii, Zinnias and Verbenas should now be made in gentle heat. After germination takes place keep the seed-boxes near the glass so that the seedlings may be dwarf and sturdy before pricking out into frames.

The Frame Ground.—All frames likely to be used when pricking out seedlings should be cleared of the old soil and fresh material added, so that everything may be in readiness to cope with the pressure of work during April. On fine days pull the sashes off the cutting frames of such things as Violas, Pentstemons and Antirrhinums so that they may be thoroughly hardened before the planting out period arrives.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

IDEAL DELPHINIUMS

The Desire for a Perfect Blue. The Colours Raisers are Urged to Achieve—and Avoid

MR. W. E. ARNOLD-FORSTER is right (see page 106 The Garden, February 26); at any rate, he is well on the right track when he calls for clear, effective colours and well spaced flowers in the modern Delphinium. Going back in mind many years, it seems to me that the writer was quite right in his summing up against those mauve and dull purple tones which seem to increase in number year by year.

In the old days, when I was engaged in handling large numbers of seedlings each season, the bulk of the varieties flowering were decided blues—light blues, medium blues, dark blues, and dark blues that merged into violet, and unless there were occasional varieties which called for a separate description as being well above the average, practically the whole number could be readily graded under the shades of blue as described.

I am perfectly clear that for size of individual blossom these old forms were far inferior to the best products of the present day, but the colouring was there!

To my mind the whole question of Delphinium colourings wants the most careful attention from an enthusiast who not only has the time, but also the necessary keen eye for colour and sufficient descriptive power in his pen to enable others to see clearly as to the colour values which he describes.

There are some varieties described as purples which are intense violets, and *vice versa*; even the redoubtable King of Delphiniums is sometimes described as a Gentian blue, without any reference to the deep violet colouring which covers the major portion of the petals.

Mr. Amos Perry, with his big collection, may perhaps, one of these days, give the Delphinium world a lead by grading the best varieties into sections and eliminating those close-spiked varieties (which Mr. Arnold-Forster so deplores) altogether. Those of us who love Delphiniums and endeavour to grow varieties which shall please our clients generally would welcome the obliteration of the forms which carry those densely-crowded spikes of blossom.

I am not setting up any attempt to be dictatorial as to the selection of varieties, but would rather endeavour to further the idea that only the most beautiful forms are worthy of extended planting. Further, I would heartily commend to all readers the supreme importance of the Delphiniums of the improved Belladonna type. These are ideal for both large and small gardens, splendid for bedding purposes, invaluable for cutting, and of exceptional beauty in all open positions. Take, for example, Belladonna semiplena, perhaps the loveliest bedding Delphinium of all; Lamartine, with its intense deep colouring; Persimmon, the ever-useful pale blue which is so very free; Musis Sacrum, which, with its loose, branching spikes of delightful soft blue, makes a pretty variety for grouping; Belladonna grandiflora, a delightful old friend when well grown; Moerheimi, the loveliest white we have yet and a delightful contrast plant; Mrs. Thompson, a rather taller form with Cambridge blue blossoms with bronzy bee centres; and the delightful Theodore, which calls for more than a passing notice by reason of its brilliant Gentian blue colouring—a set which would charm any flower-lover with their exquisite beauty.

Spring planting is often more satisfactory for Delphiniums than autumn or winter, especially if the soil is of a heavy character. At this season of the year the beds or borders can be brought to a good condition for planting, and the plants go right away strongly without a check. Propagation at this season is easy, and from plants divided now and planted out in April one can generally secure the very finest spikes. In the past it has invariably been our custom to secure the best exhibition spikes from young April planted stock. If one is going to split the crowns and plant direct March is a good season.

As the Delphiniums are free-feeding plants a good dressing of decayed manure with a modicum of grit and leaf-soil will provide a splendid rooting medium when incorporated with the soil.

For securing a long continued display of flowers all spikes as they fade should be removed from the plants and no seed allowed to form; by so doing, new spikes are quickly pushed up and the season thus greatly prolonged. P. S. Hayward.

Messrs. Blackmore and Langdon tell us (page 124) that they have been "working for many years to obtain Delphiniums pure blue in colour." Now, it may seem brutal to express a devout hope that they may never succeed; but I trust I may be acquitted of discourtesy in cherishing that hope if I explain that I mean "pure blue" in the sense used by artists. There is only one hardy plant known to me that bears flowers in which no colour rays but blue can be detected, namely, Salvia patens, and I think most people will agree that Delphiniums of that violent hue would be an eyesore. The corolla of Belladonna, loveliest of Larkspurs, is far from being pure blue; like the pigment cobalt, it reflects an appreciable tinge of yellow, with a trace of red to check the formation of green. The effect of pure blue, in the strict sense of none but blue rays being reflected or transmitted, is always "criard" (there is no exact English equivalent to the French term), whether in painting, textiles or anything else. We talk of a blue sky, but any water-colour painter knows that to obtain the effect it is necessary to break the pure pigment with yellow ochre, light red or other equivalent. So in the light reflected from blue flowers, even those of Gentiana verna, a trained eye is sensible of some admixture of red or yellow, or both.

While, therefore, wishing Messrs. Blackmore and Langdon all success in the production of a *good* blue strain of Delphinium, I trust they will stop short of achieving a *pure*—that is, an unmitigated—blue.

Monreith. Herbert Maxwell.

I was very glad to see Messrs. Blackmore and Langdon's article on page 124 in reply to a note of mine on Delphiniums. It is good to know that these famous growers are so keen to raise Delphiniums of just the type I ventured to indicate as an Ideal; and indeed I did not need to be assured of this, for in past years I have more than once had the pleasure of discussing this point with the firm's representative at R.H.S. shows. Of the varieties recommended in the article, the magnificent Millicent Blackmore is at present unfortunately too costly for me (30s.). As for the others, which are recommended as being truly blue, it is most valuable to have such a list. Colonel Douglas is a splendid sort, which I know and am growing. Of the rest, three I do not know and will get as soon as possible. Messrs. Blackmore and Langdon say they will welcome the good pink Delphinium when it comes. Yes, of course, so shall I; and I have never suggested that we could afford to do without the fine purple and lilac ones that we have got. In their distinctive ways no Delphiniums could be much more splendid than the Alake and Statuaire Rude (and its successors) as exhibited by Messrs. Blackmore. But I maintain that a really pure blue of perfect habit and constitution is—or was till lately—more urgently needed for ordinary garden decoration, and is an even more desirable

objective. I was very glad to see that Mr. E. H. Jenkins, in his article on page 125, in effect supports this view. I note, too, that he shares my feeling about varieties like Sir Douglas Haig. Messrs. Blackmore and Langdon speak of this in their catalogue as "the finest Delphinium yet seen"; whereas to Mr. Jenkins, as to myself, it seems merely "obese," with a certain stateliness no doubt, but hardly worth a place beside the Alake. Someone, I suppose, will say to this, "de gustibus non est disputandum." There is room for all sorts of tastes, yet I believe that even in forming a judgment as to the ideal form of a Delphinium spike one can, to some extent, be guided half subconsciously by a great natural law of design. In nature's designing the repetition of similar shapes in diminishing sizes is a frequent device which certainly produces an æsthetic pleasure, and human artists recognise this as a principle of design. In a Delphinium spike in which the separate flowers are all merged one into the other, the beauty of the repetition is almost lost. So, too, as regards colour. It seems to be no mere accident of "taste" that leads the majority of people to prefer a pure blue colour to the colour violet; some real physiological law accounts for the fact that violet or violet blue is in itself less stimulating, though it is, of course, a truism to say that many delightful flowers are coloured violet. But blaze away, you magicians who make Delphiniums. Give us pink ones by all means, and hybrids of the yellow and the scarlet species. And do not forget to make some more August-flowering hybrids (with the help of D. vestitum?). They will all be welcome, all the good ones. And, as someone was saying, "de gustibus. . . ." W. E. Arnold-Forster.

CORRESPONDENCE

A FLORIFEROUS BLACKTHORN.

THE beautiful double-flowering variety of our hedgerow Sloe, Prunus spinosa flore-pleno, is worthy of much more attention in our gardens. Blooming during March and early April, it forms a large bushy shrub which thrives in most soils and open positions. Bushes covered with masses of the double white blossoms are very attractive, lasting in beauty longer than the single-flowered form. One of the best positions for the double Sloe is by the water-side, so pleasingly depicted in the illustration.—Q.

THE DOUBLE-FLOWERED BLACKTHORN RETAINS ITS FULL BEAUTY MUCH LONGER THAN THE COMMON FORM.

THE PRICES OF NEW PLANTS.

MR. W. E. ARNOLD-FORSTER in his article in The Garden of February 26 refers to the prices of "novelties," using hard words which are unjustified and unfounded As he mentions in particular an Iris sold at £5, and the only Iris sold at that price is Dominion, of which I am the raiser, perhaps I may be allowed to make some reply (I have no pecuniary interest in Dominion whatever). I know many who have bought it during the last two years, and most of them are not rich people. There is no question of snobbery or "bad form"; it is simply a question of whether a novelty is worth the price asked for it or not. The value of a novelty is most fairly measured by the cost of its production, and by its capacity for producing descendants of exceptional merit—its pedigree value. Dominion was quite a new break, and from the seedlings already obtained from it, it is not too much to say that it must be the foundation of the Irises of the future; that is, no Iris will be able to hold its own against varieties of Dominion ancestry, except such as possess some special character that it may be found impossible to obtain in combination with the Dominion qualities—and this is not very likely. Hence the "pedigree" value of Dominion is difficult to estimate, and on that ground alone it is probably worth far more than £5, which, in view of the demand, is only possible owing to its good rate of increase. Compare the £50 for Daffodil Peter Barr, or a thousand guineas for a pedigree bull where the rate of increase is slower and more uncertain. Pedigree value, however, is a matter for experts, but the cost of production may be estimated directly and can be appreciated by all. I wonder if Mr. Arnold-Forster realises the cost of producing first-class novelties. There is no magic about it; new varieties may be obtained by anyone who takes the trouble to collect and sow seed, but to produce novelties of exceptional merit requires (like everything else of high quality) the exercise of intelligence and imagination and much patient labour. It is notorious that no one has ever made a living out of raising novelties alone, seldom indeed recovering out-of-pocket expenses, and for my part I do not see that there is any "honourable tradition" or "good form" in paying prices for novelties which do not provide a living wage for those who produce them. Why should raisers of new flowers alone be expected to give their work for nothing? They have no protection and cannot "patent" their productions, and what they receive depends ultimately on the prices at which the novelties are sold. It is true that the best work is seldom produced for gain and most breeders of flowers have worked mainly for their own interest and pleasure; but comparatively few are in a position to do so, and the result is both that the possibilities of breeding are greatly limited, and that many novelties of second-rate quality are sent out. A good example is provided in the earlier part of Mr. Arnold-Forster's article, where he notes the prevalence of purples and violets in Delphiniums. This is to be seen in many other flowers also, and the reason is simply that these are generally the easiest to obtain, and if people do not pay a fair price for the best work—they will get just what they pay for. With higher prices breeders would "scrap" more severely and send out only their very best. And if this applies to flowers, which are interesting in themselves, how much more does it apply to improvements in fruits, vegetables and economic plants. If we wish to keep our country in the honourable position which it holds in the forefront of progress we must give due encouragement to the best work. —A. J. Bliss

THE EDZELL BLUE POTATO.

LAST summer (so called) in this district—mid Wales, near the sea—we had the worst sample of weather for gardening I have ever known. From the beginning of December till quite late in the summer it rained almost continuously. In consequence, everything rottable duly rotted. The Apple trees turned black, as if they had been scorched by fire, and all the blossom perished. The Tulips and Magnolias and such-like spring flowers turned brown and never opened. Until the end of February I had not a Potato that was really worth eating; they were all wet and flabby. But now—at last—we are eating one that comes near perfection. Considering what they had to go through, it is a great achievement. The Potato is Edzell Blue—crisp

and floury and just a treat. I have never grown them before, so do not know how they generally turn out; but I should like to draw attention to their merits, when all my other Potatoes failed dismally.—A. H. UPCHER, *Merioneth.*

EARLY FLOWERS AND THE MILD SEASON.

A FEW flowers of Prunus Pissardii were open here at the end of January. The blossom was at its best about February 22nd. I think I have seen this Prunus in flower at Exmouth several times about the second week in February.—E. C. BUXTON, *Bettws-y-Coed.*

THE paragraph in your "Correspondence" column for March 12 regarding the early flowering of the Persian Plum is very interesting. About fifteen years ago I planted a fine specimen of Prunus Pissardii in the garden of Kirkmaiden Manse (sent to me by one of my kindest friends, the late William Paul of Waltham Cross), which usually flowered, when the season was propitious, in the beginning of March. It was occasionally successful in forming its fruit to a limited extent, but owing perhaps to their black complexion, which manifestly induced the birds to suppose that they were ripe, the embryonic Plums were invariably (to my great sorrow) plucked off before they were half grown. If my memory is not at fault, a Highland chieftain in Morayshire wrote to me about thirteen years ago that the fruits of Prunus Pissardii developed to their full extent and adequately ripened in his garden. Even without the artistic influence of its graceful blossoms, the Persian Plum, by virtue of its beautiful chocolate foliage, is highly ornamental.—DAVID R. WILLIAMSON.

THE SIZE OF YEW TREES.

IN your issue dated February 19, page 86, there appears a letter from Mr. T. W. Briscoe drawing attention to a Yew 12ft. in circumference. Bain in his book refers to a Yew 17ft. in circumference. Mr. Briscoe may be interested to know that there is an ancient Yew in a hedge here which measures 19ft. 10ins., 4ft. from the base. As it stands in a bank the circumference at the base cannot be ascertained. The tree is apparently about 40ft. high and although the spread on one side has been restrained, on the other it is about 30ft. This Yew is not hollow, although some of the branches in the centre are decayed.—STUART M. SAMUEL *Nutley, Sussex.*

MR. A. T. JOHNSON is right in stating that the measurements of the Yew recorded in THE GARDEN of February 19 are inferior to those of many other trees in the country. Few, however, in spite of their recuperative power, have seen "a thousand years of gloom." The late Sir R. Christison established by the measurement of trees of known age and by measurement of increased girth at a fixed point at stated periods that the average rate of growth in the trunk of a Yew is 1 foot of diameter in seventy-five years, and this rate is sometimes exceeded. Dr. John Lowe in his comprehensive book entitled "The Yew Trees of Great Britain and Ireland" gives the measurements of a very large number, but in the whole of England and Wales he only records thirty-two trees with trunks 10 feet in diameter, which gives an age of 750 years. In Hambledon Churchyard, not far from Godalming, there is a Yew which measured 39 feet round at 3 feet from the ground in January, 1895, so here we may be face to face with a living tree one thousand years of age. Mr. A. T. Johnson adds that "when Yews die, they die young, as one may see in almost any wood where the species abounds in a natural state," but I do not think the Yew can be regarded as a forest tree or one which grows when overshadowed by those of more rapid growth. It loves an open station on the steep hillside, and wherever the chalk crops up all along the ancient and romantic Pilgrims' Way, which ran from Canterbury to Winchester, venerable specimens may be seen, and near them their young seedlings are springing up. Some of the finest specimens are to be found at Newland's Corner, near Guildford, and on Box Hill, where the Yews grow by the side of the Box trees. It is thought by many that this is the only natural station of these last-named trees in England. Reference has been made recently in THE GARDEN to the unpleasant aroma of the Box trees, and it is interesting to find that this was noted by Evelyn, who writes of them "as giving their name to the chalky hill, whither ladies and gentleman often resort during the heat of summer to walk, collation and divert themselves into those antilox natural alleys and shady recesses among the Box trees, without taking any such offence at *the smell which has of late banished it from our groves and gardens.*" To return to the Yew trees, I know of no more delightful recreation than to take note of some of the famous Yews mentioned in Dr. Lowe's book, which may be found in the Royal Horticultural Society's Library, and then make pious pilgrimage to some venerable tree with tape measure and camera. In conclusion, I venture to think that the following list of Yew trees recorded in Dr. Lowe's finely illustrated work will be of interest. A large number of those over 18ft. in girth and under 30ft. are described: Pantillydw, Carnarvon, girth of trunk 30ft. at the ground; Bettws Newydd, Carnarvon, 30ft. 6ins. at the ground, 1877; South Hayling, Hants, 32ft., 3ft. from ground, 1896; Ulcombe, Kent, 35ft., 3ft. from ground, 1889; Leeds, Kent, 32ft. 6ins., 3ft. from ground, a mere shell 1892; Buckland, Dover, Kent, 22ft. (struck by lightning in 1774, removed 6oft. in 1880, still flourishing 1921); Mamhilad, Monmouth, 30ft. 9ins., 1895; Goytree, Monmouth, 32ft. 4ins. at ground; Llanfoist, Monmouth, 22ft., 4ft. from ground; Ankerwyke, Middlesex, 30ft. 9ins., 7ft. from ground, 1894; Dinder, Somerset, 31ft.; Trentham, Stafford, 33ft. 4ins. at ground; Hambledon, Surrey, 39ft., 3ft. from ground (trunk hollow); Tandridge, Surrey, 30ft. 4ins.; Crowhurst, Surrey, 31ft. 8ins., 4ft. from ground, 1890; Cold Waltham, Sussex, 31ft. 3ins.; Buxted, Sussex, 39ft., 3ft. from ground (a noble tree); Crowhurst, Sussex, 29ft., 4ft. from ground; Longleat, Wilts, 31ft.; Tisbury, Wilts, one 37ft. (nine persons could stand inside in 1892) and another 30ft. 6ins.; Yewdale, Westmorland, 26ft. 2ins., 2ft. from ground; Kyre Park, Worcestershire, one 30ft. at ground (24ft., 5ft. from ground) and another 36ft. at ground (32ft., 5ft. from ground). It is interesting, too, to note that the Cypress planted at Chartreux by Michelangelo was 13ft. in girth in 1817, which gives an average rate of growth of over 4ft. diameter in the first three centuries, or 1ft. in 69.7 years, which is perhaps slightly more rapid than that of the Yew. There is also a tree at Hambledon, Hants, 18ft. round, 3ft. from ground, which must not be confused with the giant tree at Hambledon, Surrey. Loudon records one which in 1836 grew at Hampstead Marshall and measured 47ft. at the ground and 37ft. round at 3ft.—H. H. WARNER, *Hoddesdon, Herts.*

THE HARDINESS OF HABRANTHUS PRATENSIS.

THERE can be no question about the hardiness of this elegant Chilian native. Mr. Elliott has done well to draw attention to the fact for the plant is one which would become very popular if its merits were only known. Few of our garden plants can rival it for gorgeous colour, and, certainly, none can approach it during its flowering season in late June or early July. I have grown it for eight years in an East Lothian garden entirely in the open without any form of protection. I began with six little roots, and last season, when replanting in a fresh position in autumn owing to the old quarters getting somewhat crowded, I put in over 150 bulbs. It is rather difficult to know how this beautiful plant has obtained a reputation in regard to its tenderness that is not deserved. Some writers must have had but scant knowledge of its true character. We all know the experience in regard to Tropæolum speciosum when it was introduced. It was actually treated as a stove plant! It is now a veritable weed in some of the coldest districts of the Scottish Highlands.—GEORGE M. TAYLOR, *Edinburgh.*

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

CROCUSES UNSATISFACTORY (W. F., Cornwall).—We do not know what can be affecting the Crocuses. We have not met with the trouble ourselves, and, unfortunately, when the flowers sent reached us they were a mass of rottenness.

JULY-FLOWERING HERBACEOUS PLANTS (D. M. V., Surrey).—For the month named our correspondent has the choice of the whole range of the Larkspurs (Delphinium), a tribe wondrously rich in clear Gentian blues, sky blues, lavender, mauve, violet and purple; enough, indeed, to satisfy tastes of a very diverse order. Lizzie Van Veen, conspicua, Rev. S. Lascelles, King of Delphiniums, Duke of Connaught, Lamartine, Mrs. J. S. Brunton, Queen Mary, Mrs. A. J. Watson, Robert Cox, True Blue, The Alake and Persimmon are a selection of good things that will hardly fail to please even the most fastidious. They are well suited, too, to light sandy soil, though it should be of good depth and rich. They may be planted forthwith,. See our special article on these, page 125. A dressing of Wakeley's Hop Manure is beneficial to these and kindred subjects and is, in fact, a reliable substitute for stable manure in all cases. Phloxes, too, are very good, though in the soil named they would have to be generously catered for in the matter of watering. Saturated twice a week, these plants are supremely happy in light soils, and being of a voracious turn the soil cannot be made too rich. July just misses the wealth of Bearded Irises and the waving masses of the Pyrethrums, though the Japanese Flags (Iris Kæmpferi) afford a feast of colour and high ornament impossible to overestimate. Rich and moist soils are necessary. Other good things are the Potentillas, Geum Mrs. Bradshaw, Heleniums pumilum magnificum and July Sun, Scabiosa caucasica Pride of Exmouth and others of its set—these are most valuable—Gaillardias, quite a host alone; Verbascum caledonia, buff and old rose; Achillea Ptarmica Perry's Variety, Lathyrus latifolius The Pearl, any of the Heucheras, scarlet Lychnis, Alstrœmerias, Galegas and Day Lilies, are all July flowering and invariably acquit themselves well.

TREES AND SHRUBS.

THE BEST KINDS OF PIERIS TO PLANT (Felsted).—If by Andromeda our correspondent means Pieris, the best kinds to plant are P. floribunda and P. japonica. They require soil such as is needed for Rhododendrons.

FURZE AND BROOM AND LIME SOILS (Felsted).—Furze does not give good results on very limey soil. Broom will grow in a more limey soil than Furze.

PRUNING BUDDLEIAS (Hants.)—Buddleia variabilis var. Veitchiana and magnifica should be pruned back at once to within a few buds of the base of last year's shoots. The older Buddleia may be cut back also. Moderately hard pruning may be followed. Last year's wood of Spiræa Lindleyana should be cut back to within about four buds of the base.

THE FLOWERS OF BUTCHER'S BROOM (W. H. B., Dorset).—Male and female flowers of Butcher's Broom (Ruscus aculeatus) are produced by different plants. By an examination of the flowers it will be easy to ascertain to which sex the plants belong. The male flowers will bear prominent stamens and pollen, whereas in female flowers perfect stamens are absent.

THE GARDEN

No. 2576.—Vol. LXXXV.] [April 2, 1921.

NOTES OF THE WEEK

As many readers have lately enquired about the making of lawns it may be pointed out that there are two methods of doing this viz., by laying down turves or by sowing seeds. The former should be done in early autumn or winter, but seeds are best sown in the spring, say, the end of March or early in April. It is necessary that the ground should be deeply worked, thoroughly prepared and carefully levelled. To ensure a good crop 150lb. of seed is necessary to the acre, or about 3lb. to every 100 square yards. Less is often used, but this is not advisable. Practically all seedsmen of repute stock mixtures of grass seeds, varying the kinds according to the soil. The seedlings usually show themselves in about three or four weeks. The first mowing should be given when the young grass is about 3ins. high. A sharp scythe is better than a mowing machine, but the latter may be successfully employed provided that the knives and blades are perfectly adjusted so that the cutting is clean. It is necessary only to remove the tops of the seedlings at the first mowing.

Planting Violet Runners.—If flowers are required from the beginning of autumn throughout the winter, the runners should be in this month. Select a south border that has been fairly well manured and roughly dug in autumn. The runners, most of which are now showing tiny rootlets, should be dibbled in firmly 1ft. apart each way.

A New Day Lily (Hemerocallis Forrestii). — This comparatively new species of Day Lily has been a very attractive object in the border throughout the autumn. The plants were small when put in four years ago, but they grew vigorously from the very beginning, the bold handsome foliage proving quite evergreen and never suffering in the slightest degree from frost, though entirely unprotected during a spell of uncommon severity. The flower stems appear in August and these, branching at the summit when about 3½ feet high, commence opening in succession their large and fragrant apricot-yellow blossoms. Thus the plants will give us a long series of blooms, the last of which will open when October is half spent.

The Planting of Herbaceous Borders. An ingenious method of planting an herbaceous border appears on page 162 of this issue. In large gardens a pernickety tidiness is not easily attained, nor is it at all desirable. The luxuriant masses of bloom vying with one another and tumbling over in rich profusion eclipse altogether, and render practically unseen, a few puny dead stocks of the departed glory of, say, a clump of Liliums. These remarks hold good alike for large as well as small borders; the only difference being that the plants and clumps are larger and smaller in proportion. Truly blessed beyond words is the man who loves his garden, it is the delight of childhood, the solace of old age, its memories gild the past, its hopes brighten the future. Surely the poet wrote truly when he wrote:

"God gave all men all earth to love,
But since our hearts are small,
Ordained one spot should prove to each,
Beloved over all."

An Exhibit of the Mourning Iris (I. Susiana). The many large flowers of this singular Iris shown at the last meeting of the Royal Horticultural Society created a mild sensation. The flowers are densely spotted and striped with dull purple, almost black, on a grey ground, hence the name, Mourning Iris. Just lately the flowers of this Iris have been seen in quantity in Covent Garden Market. It flowers well from imported rhizomes, but it is a difficult plant to winter in the average English garden. It succeeds best in sunny nooks on light, warm soils. Good drainage it must have and, if possible, a regular roasting in the sun all through the summer months.

THE MOURNING IRIS (I. SUSIANA) NOW TO BE SEEN IN COVENT GARDEN MARKET.

Protecting Asparagus from Frost.—As the young heads appear above ground they are apt to be injured by spring frosts. To prevent this, a little clean litter strewed over the heads in the evening when frosts appear imminent will protect them considerably.

Late Potatoes.—It is now advisable to complete the planting of these, as May planting is apt to make the ripening of the crop very late. While over-manuring of most varieties must be avoided, still there are one or two of the finest table Potatoes that must be generously treated if best results are aimed at, *e.g.*, Langworthy, Golden Wonder and What's Wanted. Unless these are given a good dressing of farmyard manure the crop will be light, but generously treated no other varieties will give a finer yield of sound, high-class tubers.

Potting Cacti and Succulent Plants. Before the season is any further advanced, attention should be given to the potting of these, where such work is needed. Agaves and Prickly Pears are frequently allowed to stand for years without fresh potting, due, no doubt, to the awkward character of the work. The stronger growing succulents do best in nearly all loam, with a free use of old lime rubble and finely broken crocks to keep the soil open and porous. Always pot firmly and select the strongest pots available to ensure against breakage.

FORTHCOMING EVENTS.

April 4.—Nottingham Chrysanthemum Society's Meeting.

April 5.—Royal Horticultural Society's Daffodil Show (two days). Caledonian Horticultural Society's Meeting.

April 7.—National Rose Society's Spring Show at Vincent Square, Westminster.

April 8.—Royal Horticultural and Arboricultural Society of Ireland Council Meeting.

April 11.—United Horticultural Benefit and Provident Society's Committee Meeting. Bath Gardeners' Debating Society's Meeting.

April 13.—Birmingham Daffodil Show (2 days).

CORRESPONDENCE

THE SIZE OF YEW TREES.

BEING interested in Mr. T. W. Briscoe's article on this subject on page 86, I have pleasure in recording the following. At Ballagan, a small estate in Stirlingshire, stands a fine specimen of the Yew, growing to a height of approximately 42ft. A clean bare stem for 7ft., which measures, at 5ft. from the ground, 10ft. 6ins. in circumference. Twenty-three of the main branches droop in long sweeping curves to within 2ft. of the ground and stretch to a distance of just over 26ft. from the trunk, ground level. An additional four large branches have been ruthlessly cut away to allow the building of a conveniently straight garden wall. Owing to its cramped position against this wall and partly overshading a greenhouse, the real beauty of the tree is entirely lost. In view of a date on part of the old building of Ballagan House, combined with history and tradition, there is reason to believe this tree will, in all likelihood, be about 300 years old. There are also some fine specimens of Yews to be seen at Dalzell, Motherwell, the Scottish residence of Lord Hamilton, but none to quite equal the above in measurement. I also hear of a famous one at Louden Castle, Ayrshire. Can any reader in that district please oblige with details? With Mr. Briscoe's reference to the bow-and-arrow period, I am proud to think we can compare so favourably with our Southern friends in growing Yew trees, though history tells us our forefathers could not compare with their Southern foes in archery.—R. G., *Stirlingshire.*

BOX OR OTHER EDGINGS.

IN reference to "Formakin's" suggestion in your issue of March 5, page 110, as to bringing the bulbs forward and planting them among such subjects as the Mossy Saxifrages, the disadvantage of this is that in any garden affected by slugs ("Formakin's" may not be) that you will find a large proportion of the flower-buds eaten into or probably off altogether before they get through the mossy cushion. Especially is this the case with Iris reticulata, Crocus species and Colchicums. I have some Crocus candidus under Arenaria cæspitosa aurea on my moraine that had nearly every flower eaten off or into recently, also some Crocus hyemalis that suffered the same fate planted under Potentilla nitida. Sir Herbert Maxwell's suggestion is much the best, as you can see what is taking place so soon as the bulbs appear and take some measures to restrict the damage. It is better also from another point of view, since the long, grass-like foliage of the Crocus and Iris do not improve the appearance of the Mossy Saxifrages either when in or out of flower.—T. A. L.

FLOATING FLOWERS IN BOWLS.

SURELY there are two sides to every question. Your correspondent "H. C. P." evidently does not approve of flowers floating in a bowl. The path before her therefore seems plainly marked out—do not do it! Sweet Peas and Roses, or any flower that lies flat upon the water, are not, to my mind, suitable for the floating process. They are sure to get draggled or waterlogged. I quite agree, too, that to lose the stalks of flowers is to lose much of their charm and beauty. But how about those flowers that will not last in water if cut with long stalks? I wonder if "H. C. P." grows any Lenten Roses (Helleborus orientalis), with all their wonderful diversity of shade and colouring, coming into bloom just when flowers are so precious. If she has cut them with long stalks, I fear she has been disappointed, however "sparkling" the water she has put them into may be. I have a big black bowl full of them now, and to me they are a perfect picture. Being cup-shaped, they float well, and it is delightful to see the little buds gradually opening. They last, too, for days. Surely this is better than cutting them with long stalks and seeing them hanging their heads and looking miserable and dejected. I wish "H. C. P." would try some (although I have previously advised her not to do so) and see if she cannot add another flower to her list. These Hellebores might easily be mistaken for a small Water Lily. Cut them with about 2ins. of stalk.—A. H. UPCHER, *Merioneth.*

EARLY FLOWERS AND THE MILD SEASON.

IN THE GARDEN of March 12 I notice Lady E. Byng of Vimy asks other readers' experience of the early blossoming of Prunus Pissardii. From notes I made last spring I see P. Pissardii was in full flower here (near Wokingham) on February 22, 1920, quite ten days earlier than this year. The trees, of which we have several, are not growing in exceptionally sheltered positions.—C. S. C., *Berks.*

OLD VARIETIES OF CHRYSANTHEMUMS.

I CAN assure Mr. C. Orchard (see page 111) that the Rundle family of Chrysanthemums is still in cultivation, for they are offered in at least two of the leading catalogues of Chrysanthemums for 1921. They were the first varieties I ever cultivated in pots, so they are nearly the first I knew. Mrs. G. Rundle is pure white and gave rise to the primrose sport, Mr. G. Glenny. That, in turn, gave the bright yellow sport, Mrs. Dixon. They are excellent plants for cut flowers, but because there is no class for them, they seldom, if ever, appear at exhibitions. In size they recall the old Pompon Mlle. Elise Dordan, which I was pleased to see in its best form at the last November exhibition of the National Chrysanthemum Society. I read Mr. C. Blair's article in the issue for January 22, but it did not strike me that Niveus was so very old; besides, it is too good a thing for December flowering to be discarded yet, being solidly built and of remarkable purity. Quite a number of the Pompons, early Pompons and the true old reflexed Chrysanthemums must be older, not to mention old varieties now grown solely for decorative purposes.—H.

A DWARF STRAIN OF SWEET PEAS.

IN reply to the question by "J. J." (see page 104) in reference to a dwarf strain of Sweet Peas, I have no doubt they were the strain that originated in America and were sent out as Bush Sweet Peas. I examined a large number of varieties on trial some time in the late nineties of last century, but for the time being cannot turn to the literature of the day for a reference to them. They grew 2ft. high or slightly over, but besides their dwarf habit I could see little to recommend them, as the flowers were only of medium size. They could also be grown more closely with regard to garden space; otherwise they required the same cultural care. The National Sweet Pea Society never took them under its ægis or fostering care, so they soon dropped out of cultivation. I cannot now find them in a leading American catalogue. The society in question seems to indicate that it keeps only one quality—the best. Where are Cupid, Red Riding Hood and the Telemby Sweet Peas? Even for decorative purposes the advocates want the largest and best, so that the old grandiflora type is rapidly losing its hold on the fancy of Sweet Pea growers.—HORTULANUS.

THE COLOURS OF EARLY SPRING FLOWERS.

IN THE GARDEN of February 19 "J. G. W." asks why so many of our early spring flowers are either white or yellow. It should be remembered that the essential parts of a flower are the stamens and pistils or male pollen-bearing organs and the female seed-producing organs. The earliest flowers evolved consisted of these alone, having no coloured whorl of petals to delight the eye of bee, butterfly or man, for these eyes were not there to see them. In this respect they resembled those borne by the wind-fertilised plants, such as the Dog's Mercury. The pollen and the stamens of many flowers are yellow, making it quickly distinguishable to the flying insect. The petals of the earliest flowers being derived or developed from the stamens, were yellow also. They gradually passed from a yellow into white, which ensured their fertilisation by the night-flying moths. Later the pink colour was developed, then it deepened into crimson; afterwards purple was evolved, and, last of all, true blue. Never did development take place in a reverse direction or in any other order (see "Colour of Flowers as illustrated by British Flora," by Grant Allen; Macmillan). The more remote the colour of the flower became from the primitive greenish yellow the longer it took for its development in the history of the race and the longer we should expect it to take in the individual. We should therefore expect to find flowers of a greenish yellow, such as the Primrose, or white in the early part of the year when the chemical rays from the sun are not strong and the air is not warm. As the days grow longer and in regions where there is more sun we should expect to find more vivid scarlets, purples and blues, such as we do in fact meet with in the tropics and where there is a far keener competition to secure insect favours. In some cases it would seem that white might be a protective colour to the flower possessing it. It is notorious how orange Crocuses are attacked by birds, while the white ones escape. Should a fall of snow take place an early flowering white flower would escape notice, while another colour would attract any passing birds to its destruction. It is very wonderful to watch the gradual development of colour in any blossom from its green bud, and here again we can trace the development of the race from the individual. According to Müller ("Alpenblumen") the flower of one variety of Viola tricolor alpestris is yellow when it first opens and gradually becomes more and more blue. Myosotis versicolor is also first yellow and then blue, so that in these cases the individual flower repeats the phase which in past times the ancestors have passed through. Lord Avebury, in his "Ants, Bees and Wasps," points out that in the Ranunculaceæ those with simple open flowers, such as Buttercups and Thalictrums are generally yellow or white. The blue Delphiniums and Aconites are highly specialised and doubtless, therefore, of more recent origin. Among the Caryophyllaceæ the red and purplish species are among those with highly specialised flowers, such as Dianthus and Saponaria, while the simple open flowers which more nearly represent the ancestral type, such as Stellaria, and Cerastium, are yellow and white. Take, again, the Primulaceæ, the open-flowered, honeyless species, such as Lysimachia

and Trientalis, are generally white or yellow; while, red, purple and blue occur principally in the highly specialised species with tubular flowers. Lastly, with the Gentians, while the well known deep blue-flowered species possess long tubular flowers, specially adapted for bees and butterflies, the yellow Gentiana lutea has a simple open flower with exposed honey showing the type of flower from which the others developed in the course of long ages. Hildebrand ("Die Farben der Bluthen") also points out that "blue flowers pass in many cases through a red stage (as in the Pulmonaria); frequently vary, as if the colours had not had time to fix themselves, and by atavism assume their original colour." Thus Aquilegia vulgaris, Ajuga genevensis, Polygala vulgaris, P. comosa, Salvia pratensis and Myosotis alpestris and many other blue flowers are often reddish or white.—H. H. Warner.

THE ALGERIAN HOOP PETTICOAT DAFFODIL

ALL the varieties of N. Bulbocodium, or Hoop Petticoat Narcissus as this group is popularly called, are charming little plants, always interesting on account of the picturesque and distinct character of their flowers. Being all dwarf in stature they are especially suitable for culture in pots, and under these conditions they are seen to the best advantage. Earliest of all to flower is the subject of the accompanying illustration, Narcissus Bulbocodium monophyllus, the Algerian Hoop Petticoat Daffodil. In the open border this variety is usually in flower in January, but unless protected the frail flowers are subject to damage by weather at this season of the year. It is thus evident that to enjoy the beauty of this winter-flowering bulb it must have the protection of a cold house, or if growing in a sunny portion of the rock garden a piece of glass should be fixed above it to throw off the rain. There are several other kinds belonging to this group in addition to the above, one of the best being the rich yellow-flowered N. Bulbocodium conspicua, which comes into flower about March. The flowers are freely produced and of good size. This variety has it home in wet meadows, which become dried up in summer, so that it requires plenty of moisture when growing and flowering, but afterwards the bulbs should be well ripened off. There is also the Sulphur Hoop Petticoat (N. B. citrinum), with beautiful pale citron yellow flowers produced also in early spring. All do well potted up in a compost of gravelly loam in autumn, and the pots should be plunged to the rim outside till the flowers push up.—W. I.

THE EARLIEST DAFFODIL TO FLOWER (NARCISSUS BULBOCODIUM MONOPHYLLUS).

SHOULD RASPBERRY CANES BE TIPPED?

I QUITE agree with Mr. Turner (page 60). It is not difficult to explain why. After tying, the tips of the canes ought to be shortened back, cutting off about 6ins. of the tips in order to promote the axillary growths. Again, it is the natural tendency of canes that are left practically

half, and hence Mr. Turner's system explained ensures fruit forming freely at the base of the "tipped canes." I have practised tipping the canes for a considerable time and have always had splendid results.—James A. Paice, *Aldenham*.

POTATO THE McPHERSON.

MR. E. MOLYNEUX, in your issue of February 19, page 92, mentions this variety among his maincrop Potatoes. I note his closing remark "of its origin I know little," so perhaps the following may be of interest to him as well as to other readers of The Garden. Mr. Duncan, Training College Gardens, Mains, Dundee, one of our foremost and most capable men in horticulture in Forfarshire, had personal supervision of this Potato from the time the seeds were sown until it was put on the market. The following is its history in Mr. Duncan's own words: "The late Colin McPherson, Carnoustie, gathered some Potato plums from Paterson's Victoria, and from the seeds of these, sown in 1903, were ultimately selected three, which, besides differing somewhat from the parent, gave promise of being of superior merit. These he named Early Victoria, M Pherson's Champion and The McPherson." The last named is thus an accidental seedling selected from upwards of a hundred sorts which, after being grown for a year or two, were ultimately discarded. The true type of The McPherson is recognised by a very pronounced ridge over the eye a round flattish tuber well netted on the skin, especially when grown on heavy soil."—W. M. I

Dundee.

A Suggested New Race of Tulips

Tulipa saxatilis a Possible Parent

IT was with much pleasure that I saw the charming illustration of Tulipa saxatilis in a New Zealand garden (issue of January 22, page 41). Even to gardeners on this coast it was a revelation, such masses of flower as positively to hide the leaves, yet growing among young Palms and in good rich soil such as Palms love. Evidently like all good Tulips, T. saxatilis enjoys rich diet, and where Northern gardeners fail with it, it is the want of sufficient heat and dryness during the summer. Misled, perhaps, by its name, saxatilis, and having grown it tolerably well in a sunny rock garden in Yorkshire, I began here by giving it too dry a position and too poor a soil, and only in later years, when I planted it in good rich red loam did it give me its full harvest of bloom, though I think it increases most rapidly by stolons in a poor, dry soil. But one thing must not be forgotten, no amount of baking and summer drought can be too much for its powers of endurance when in a good rich, loamy soil.

The Dutch, we hear, are preparing a surprise for us in producing a cross between the dwarf Van Thol Tulip and the tall Darwin. This will no doubt be useful for cut-flower and market purposes, but, personally, I should much prefer a cross between the Van Thols and Tulipa saxatilis. A good line of Van Thol Tulips glittering in the sun a few weeks ago made me think that a cross with T. saxatilis, another dwarf early and very floriferous Tulip, would be even more desirable. Most certainly such a hybrid would be a great gain to gardens, though perhaps not so useful for cut-flowers as a longer stalked variety, but the bouquets of three, four or five flowers that T. saxatilis produces would have a wonderful effect in a garden! The one fault of T. saxatilis is that its beautiful but delicate peach pink and yellow colouring is soon tarnished in a bright sun when an east wind blows, so a clever hybridiser would just add an additional beauty if he succeeded in giving it a more lasting and brilliant colour which, if not necessarily more beautiful, would be more effective in the garden. Perhaps, also, the hybrids would not demand such extreme drought and heat in summer as is favourable to T. saxatilis, which would be desirable in most situations, especially in the North.

There is now a new Violet that is clear pink in colour and said to be very hardy and floriferous, but somehow it has, to my eyes, a frivolous effect, as if it were trying to be something else, or in fancy dress, if one may so express it. In my youth I often heard of the yellow Violet, and have once or twice seen such a flower; it has never been a success, but I think if we could get the colour of the Neapolitan Violet in the hardier Russian Violet it would be a [illegible]

Nice. E. H. W

HOW TO EXCEL WITH BEGONIAS

For Cool Greenhouse and for Outside Beds and Borders there is no Plant which Gives a Greater Abundance of Large Blooms with Vivid Range in Colours than the Tuberous Begonia

HOW very few understand the tuberous-rooted Begonia, more especially the care of the tubers after the season is over. The right place for the Begonia is that vacated by the Geranium. Whereas the latter was far too overdone in Victorian times, the Begonia is rarely seen in rude health, vying with anything in the whole garden, as it should be. Geraniums and their cuttings are an unmitigated nuisance in the glass houses in winter, but the Begonia tubers can be stored away and cause no trouble.

First obtain the tubers from a reliable seedsman, and if they are hard on arrival put them into a light, moist greenhouse where the temperature does not range more than 45° to 65°Fahr. As soon as the tubers become soft they are ready for starting. Use a compost of loam, sand, and old Oak-leaf-mould in equal proportions, adding to this one quarter part of very old cow manure, which should be like old mould. To every cubic yard of compost sow ¾oz. of sulphate of potash, 3ozs. of steamed bone flour, and 3ozs. of slaked lime of the purest grade. Incorporate and mix thoroughly and leave for a day or two. The sand must be Bedford quartz sand in fine, medium and coarse grades well mixed together. The tuberous-rooted Begonia loves lime, which keeps it free of disease, but the fibrous-rooted kinds are mycotrophic and lime will kill them. Shallow boxes covered with a single layer of large crocks are best to start the tubers in. Over the crocks place a layer of dead grass roots, then the compost about 1in. deep. Put the tubers on this soil layer concave side uppermost. Cover the tubers with more compost, pressing it firmly all round; then still more compost on top until after all has been evenly firmed over there is ¾in. of soil above the tubers. If the soil was in the proper state of moisture, water will not be necessary for a day or two, but after this soak them with water to make the drainage run freely. Plenty of light in a greenhouse with the temperature at night not below 45° and during the day 65° suits them admirably. As soon as the soil cracks and the new shoots push up, syringe with a fine mist-like spray morning and afternoon. The first roots to form are at the base of the new shoots and fill the concave hollow of the tuber. After this these roots spread further out, therefore the tubers can touch one another in the starting boxes. They should be quite 3ins. high before they are transferred to pots. Two shifts in pots are usual, but one is sufficient for bed and border work, and this should be into a 5in. or 48. Use the very same compost, potting them firmly and putting more soil over the tubers. When the plants have made two or three good leaves give them, after a good drenching of pure water, 1-320z. of ammonium nitrate (96 per cent. pure) to the gallon of water. A gallon will be sufficient for twenty to thirty plants. Do not let the solution touch the foliage, but if by chance it should do so, syringe it off. The plants will require ammonium nitrate two or three times more up to the time the flowers are at their best. The third application should be 1-160z. and the last ½oz. to the gallon of water.

A BED OF TUBEROUS BEGONIAS AT MALVERN LODGE, WORCESTER PARK.

For outside purposes a compost similar to that described above should be used, and if possible should be a foot in depth. It does not matter if it is all clay below this, but of course free drainage is preferable. There is no difficulty in knocking the Begonias out of their pots and planting them in the prepared beds or borders, in full sun or partial shade, provided the tubers are kept cool. For this reason sand, leaf-mould and old cow manure are necessary. A thorough watering when required, followed by raking the soil surface to prevent evaporation, are the only cultural details. As the Begonias will be in flower at planting-out time, any colour scheme can easily be arranged. Do not allow any seeds to form, as this taxes the strength of the plants too much. At the end of the season take up the plants with a good ball of earth attached and place them on shelves in a cool, dry greenhouse. As the leaves and stems die and rot, pull them off, and finally shake away all the dry soil. Put in trays and store free from frost and moisture. They will be just as good the following year. I have had them seven years in perfect condition—the single, the double, crispa or frilled single, cristata, the crested single and the numerous decorative kinds. Messrs. Barr and Sons of King Street, Covent Garden, are introducing a Narcissus-flowered Begonia which resembles a single frilled Begonia with a frilled and fluted trumpet in the centre. It is a most delightful flower, and can be had in all the Begonia range of colouring. C. A. JARDINE.

Planting Out Sweet Peas

The Preparation of the Soil is the Secret of Success

THE selection of varieties of Sweet Peas is a very serious one to the small grower and beginner. The preparation of the soil needs both careful consideration and real hard work to ensure success, and on this latter point a few remarks at this season may not be out of place.

At this late date it is presumed that the actual trenching or digging has been done, say, some time previously, and the very dry weather conditions prevailing during the month of February will have done much to ameliorate the soil, especially if it is of a heavy nature; and it is in this class of soil where the plants will benefit so much by a little extra preparation before actually putting the plants out If the ground has been dug during the autumn it will have become sufficiently consolidated for all practical purposes whether it is of a light or heavy nature, and the chief concern will be to thoroughly disintegrate the surface to the depth of 3 inches or 4 inches with the fork or Bucko cultivator, whichever seems the most suitable for the class of soil to be treated, though in most cases the fork will be the best. It is not sufficient to just move the surface, but it should be well broken up, as mentioned above, some 3 inches or 4 inches, and if there is a possibility of trouble from slugs a fair dressing of soot or freshly slaked lime worked in will do much to lessen trouble in this direction. The real benefits derived from this extra cultivation of the surface soil is that the roots, once they commence to grow, can ramble about at will in all directions and not grow in one way only, as they are likely to do when the soil is just a series of lumps butting one on the other. The expert grower will know that whatever pains are taken with the preparation of the soil before planting are amply repaid, not only by the greater ease in the actual operation of planting, but also by the greater rapidity with which the young plants take to the soil, and it is a very decided advantage for the plants to get away without a check of any kind.

It is a very usual practice to raise plants in pots and boxes, both in the autumn and early spring, for planting in the open ground, and with few exceptions such a practice has been found the most successful for getting good blooms, though I must say only this last season I heard of an instance where seed was sown in very hard and unworked ground in the open, and the resulting plants gave bloom as good if not better than those raised in pots. Whether such a procedure can be relied upon to give such good results over a series of years I cannot say; but plants raised in pots or boxes I can

recorded even a comparative failure during the past twenty-eight years.

When the plants are raised or have been potted off singly the question may be raised as to the advisability of planting the ball of soil as it comes out of the pot, or shaking the roots free of the soil. The latter system I much prefer, as in this case some of the roots will be further beneath the surface and all of them in contact with the fresh soil, and though the existing roots may not continue growing right away at the tips, they will at least soon throw out numerous young roots in all directions. True, those planted out with the balls intact may appear to grow away a little more quickly at first, but under ordinary conditions those shaken out will soon overtake them and ventually will make the best growth and be better able to withstand prolonged periods of drought.

Whichever system is adopted, the actual planting should be done carefully, taking pains not to plant too deep or there may be losses from the ravages of slugs. Firmness is positively essential, providing the soil is in the right condition as to disintegration and moisture, but the surface should be left loose so that the ground gets the full benefit from the heat of the sun and rainfall.

The date of planting will be governed somewhat by the state of the plants, soil and weather conditions generally, but where the plants are of fair size, say, from 3 inches to 5 inches in height, and thoroughly hardened, early planting is strongly to be recommended. Rarely are properly hardened plants seriously affected by frost, but cold, biting winds will upset them considerably; and when very early planting is practised some provision should be made for protecting the young plants, and even a few bushy twigs will do this quite effectively.

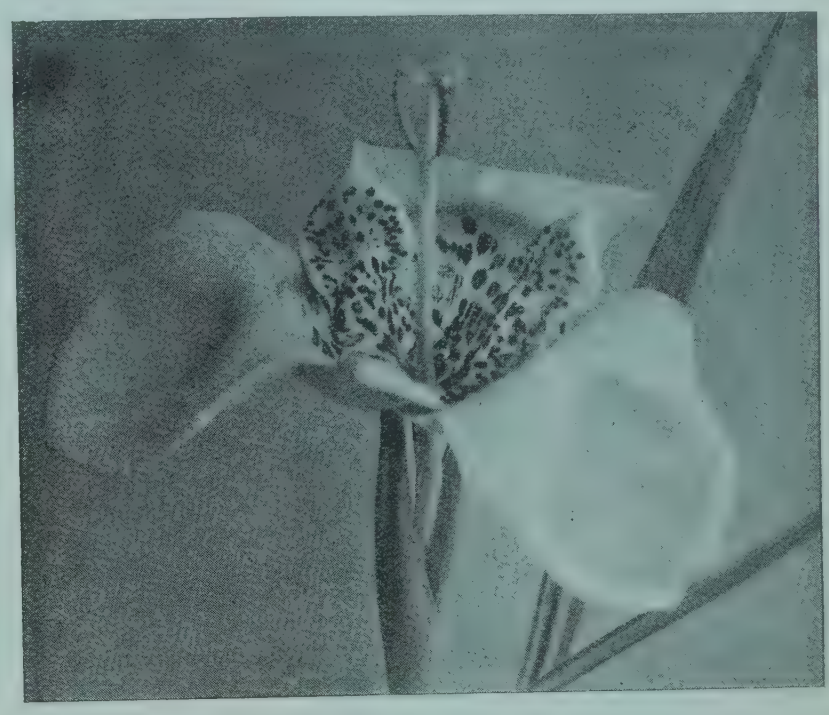
THOMAS STEVENSON.

Planting the Gorgeous Tiger Iris

Being a Native of Mexico, the Tiger Iris Naturally Requires a Position where it can receive Plenty of Sunshine. The Bulbs Should be Planted in the Open Within the Next Few Weeks

BY THE EDITOR.

AT this time of the year our thoughts turn unerringly to the planting of Tigridias or Tiger Irises. Of all the brilliant flowers of August none is more gorgeously coloured and spotted. Last year they flowered exceptionally well, and this is how they were grown. The bulbs were planted in a sunny bed of sandy peat the first week in April, and they were covered with about 2ins. of soil. Not that sand or peat were essential. The Tiger Iris may prefer a hot sandy soil, but we have known it to flower magnificently in the stiffest of stiff clays. The bulbs should, however, be planted rather less than this depth in heavy ground. Above all things, it is necessary that the soil should be well drained, for although they flourish in a dripping summer and plenty of moisture is appreciated in the growing season, anything in the nature of stagnant damp is fatal to success. Some months ago a reader explained in these pages that it was quite a simple matter to grow the Tiger Irises from seed, and in his opinion the seedlings surpass in vigour those plants raised from imported and stored bulbs. Seedlings will flower in their second or third season. However, they are a great success when grown from bulbs, and give little or no trouble in cultivation. Among the most brilliant of these Mexican flowers are Tigrida conchiflora, the Shell Flower, chrome yellow, spotted crimson in the centre; alba grandiflora, magnificent white, heavily spotted with carmine in the cup; alba immaculata, pure white; T. grandiflora rubra, large ruby centre on yellow ground; and T. Pavonia, the true peacock Tiger Iris. For brilliance of colour there are no flowers to equal these gorgeous tiger flowers from Mexico, and yet they are so seldom seen. All who have an opportunity of growing these interesting plants should make a point of doing so, even though it might only be a small clump of half a dozen bulbs. The plants require very much the same treatment as Gladioli. According to some authorities it is advisable to lift the bulbs in November and dry and store them. We think it best to leave the bulbs in the ground and to cover with ashes.



TIGRIDA CONCHIFLORA, CHROME YELLOW AND CRIMSON SPOTS.

OF ALL THE BRILLIANT FLOWERS OF AUGUST NONE IS MORE

The evanescence of their wonderful blooms renders them difficult subjects to exhibit, and for this reason we so seldom see them at flower shows. In this respect the Tiger Iris is like the Cistus or Rock Rose, but is it not true that some of the most beautiful things in Nature are the most evanescent? They crowd into a few hours brilliancy of colour and splendour too intense to last. Although the individual flower of the Tiger Iris lasts only for a single day, each bulb throws a number of buds and the plants are attractive for a considerable period.

A Californian Reader's Experience with Iris unguicularis

IN looking over some back numbers of THE GARDEN of the spring of 1920, I noted several articles on Iris unguicularis and its flowering. Having grown it this year for the first time, I was interested in comparing my experience with those given. My plants, only three in number, were set out on November 20, and were, of course, cut back to about 6ins. On February 13, less than three months from planting, the first blossom opened, closely followed by several others. The stems were of good length, being at least 6ins. Other flower-buds are now (February 20) evident, as well as plenty of new growth. Accounts of Iris unguicularis agree that it takes a well established plant to bloom, but my experience seems to differ. Perhaps our mild winter has had much to do with the free flowering, although we have had a great deal of rain and many cloudy days. Our winter climate is much like your own of southern England

Oroville, California. (MRS.) LEILA B. STAPLETON.

A Beautiful Shrub from New South Wales

DURING the month of February Grevillea sulphurea was a mass of pale yellow flowers, the plant growing at the base of a wall with a south aspect. It blooms at a time when flowers outside are none too plentiful, and being the hardiest of the Grevilleas, it deserves to be planted more freely. In many districts the protection of a wall is a necessity, but in more favoured localities, such as Devon and Cornwall, it can be placed in a more open position. It is a native of New South Wales, and is regarded by some as a variety of G. juniperina. G. sulphurea is evergreen, and the small needle-like leaves, set closely on the branches, render the whole plant attractive at all seasons. At Messrs. Veitch's Coombe Wood Nursery it was a success as a shrub, reaching some 4ft. to 5ft. high and as much in circumference. May and June are often given as the months in which it blooms, but here in the Chepstow district it flowers much earlier. Cuttings made of half ripened shoots root readily during July and August, if placed in a close frame with a little bottom-heat.

THE PALE YELLOW FLOWERS OF GREVILLEA SULPHUREA.

A suitable companion to the above is G. rosmarinifolia; the flowers are a bright rosy carmine, arranged in terminal clusters with narrow leaves, otherwise very like the Rosemary. This species is also a native of New South Wales. They will succeed in good ordinary garden soil, but if it is of a heavy nature peat and leaf-mould may be added with advantage. T. W. B.

The Planting of Herbaceous Borders

A Departure from the Orthodox Method

NOT a few of your readers will now be considering either rearranging their herbaceous borders or making new ones, and a few hints may be useful; even if not followed, they may at least cause intending planters to consider and, reflect on what they are about to do. There are, alas! comparatively few owners and still fewer professional gardeners who give the artistic side of gardening one careless thought; their main idea seems to be the cultivation of large blooms and, if possible, something new. Personally, I must frankly own I fall rather a ready victim to the latter; I would I had the strength of will to select the best variety, or what I thought the best of each family and grow that in quantity, instead of a tendency to make my borders rather spotty, like Joseph's coat of many colours. The most essential quality of, at least, the main portion of a garden is to give a peaceful repose, a feeling of rest and contentment, to the exclusion of worry and the petty cares of life. The mind and body ought both to be soothed to rest; for example, no matter how charming be the flowers, if one's feet are ankle deep struggling through a sea of grating gravel there can be no restful feeling, therefore a path, be it of whatsoever material, must be pleasant to the tread. Light and shade are always an agreeable feature, and let the grounds be so constructed as to give variety. If your friend can see all the garden from one point of view much interest is lost, it is the discovery of something unexpected that gives interest and enjoyment. A well-furnished house has not all its treasures in one room; on wandering about, some masterpiece, be it of furniture, porcelain or picture, will be found in some rather obscured corner, and you leave your host with the firm conviction that there must still be many fine things which you have not seen and look forward to the next visit; precisely the same thing happens in the garden. But I have woefully wandered from my herbaceous border planting. All the preliminary instructions I have had the misfortune to see, read something like this: "After having completed trenching make the surface of the soil perfectly smooth with a slight fall to the front." Well, that is excellent advice for commencing to make a dull and uninteresting border. I should much prefer after this trenching operation (which, by the way, sometimes does more harm than good) to leave the surface of the soil like the waves of the sea, up and down. Some plants want rather a dry position; others a damp one; and this unevenness helps to accommodate both. Readers will find that if a plant suffers from too much damp in winter a good spadeful of soil temporarily taken out at the side of it will often give the necessary dryness to enable the plant to pull through the winter, when otherwise it would be lost; while the plants seeking dampness, if planted in the hollows, will get more natural moisture and fuller advantage of any water which may be given them. Again, if the garden be small and space limited, an uneven surface will accommodate more plants than a level one. If all the mountains of Scotland were cut off it would be a very small as well as a very dull place! Now having got the surface of your border rather wavy—clearly understand, not dotted over with a number of little mounds like mole-hills—start to arrange your plants. I will assume that the border is being reconstructed and very possibly may contain several plants which will ill agree with a "fitting," such as Pæony Roses and some of the Liliums—if at all possible these had better not be disturbed. No doubt, however, the same variety of plants have hitherto been planted in the border in different clumps—I sincerely trust not in rows or at regular intervals—but be it thus or otherwise, let all the plants of one kind be put in one heap, as likewise all the other varieties in heaps by themselves. Having done this, on consideration, you will find that it will take up no more space to plant, say, seven clumps of Phlox in one irregular patch than the seven plants previously occupied dotted over the border, and the effect will be much more striking and decorative. Continue thus planting so that when the border is completed only one clump of each variety, be it a large clump or a small one, will be seen in that border, and you can blame "Formakin" if the effect is not much finer than having them dotted over the border as heretofore. Needless to say, many of the specimens will require division, and only the strongest parts, which are usually at the outside of the plant, are replanted. I know the objection will be raised that this method will leave bare and rather unsightly patches when the plants thus treated are out of bloom. That objection, however, can be largely met by the judicious use of bulbs or annuals. For example, take a large patch of one of the mossy Saxifrages, the green in winter is charming of itself, but can be made more interesting by having Iris reticulata growing through it, which will be kept clean by the mossy carpeting of the Saxifrage; later we will have the bloom of the Saxifrage itself, possibly in May, to be followed by either, say, English or Spanish Iris, then by Lilium Martagon album (most Liliums like the damp soil which the Saxifrage covering will give them); and this again, might be followed up by Crocus speciosum, which looks charming in autumn, amid the bright green carpet, and is kept perfectly clean. Thus in this clump you have had five different blooms. Clumps of Anemone japonica can be made gay in early spring by, say, Scilla sibirica; this to be followed by one of the Liliums, and the Anemone itself will complete the season—three blooms on this patch.

The Pæony by Crocus, Lilies and Tulips; the Bocconia cordata, with its late but lovely foliage, can be planted with Trillium grandiflorum, which will make a bold show in early spring and appreciate the shade of its bed companion in the heat of summer. I only make a few suggestions, combinations of this nature are legion. On no account let the planter fall into the pitfall of placing all his tall plants at the back of the border and sloping gradually in height down to the front; slap in a clump of something tall, be it Liliums or Delphinium Belladonna, at the very front of the border. The hillsides do not commence with Thyme at the foot and finish off with Oak trees

at the top! Let some of the plants sprawl over the walk, it gives a look of freedom to the poor things. Surely you do not admire Delphiniums, Pyrethrums or Michaelmas Daisies tied up like sheaves of corn? Of course, on no account must there be any red soil seen in summer. The entire plot is covered with bloom or foliage, no need for the Dutch hoe or room for weeds to grow. Again reverting to tying and staking, with the exception of Delphiniums and possibly a few other things. the less that is done in that direction the better. Even Pyrethrums look quite nice sprawling about on the ground. If at all possible every garden ought to have a special border from which to cut flowers for friends or house decoration; it always detracts from a border to see cut patches of blooms. There is no need to be afraid to let an Azalea, or a clump of Azaleas if the space be a large one, stray into the herbaceous border. While in bloom if they be flanked by a clump of white Campanula or, again, by Anemone japonica alba, when their leaves are aglow with autumn tints, the effects are both alike charming. Quite a number of Roses are very effective in the herbaceous border, such as Moyseii, Austrian Copper, Austrian Yellow, York and Lancaster, Maiden's Blush, under which latter might be planted a few roots of Tropæolum speciosum to clothe its branches in scarlet towards the autumn of the year. FORMAKIN.

A LOVELY LILY FOR SPRING PLANTING

Lilium auratum in a Northern Garden

THE picture illustrating a striking group of Lilium auratum in the gardens of Ormidale, Brodick, Arran, the summer residence of Mr. Claude Lemon, shows some which reach 7ft. in height, and have anything to twenty flowers on a spike. The flowers themselves measure about 8ins. across. The remarkable feature is that it is over thirty years ago since the bulbs were first planted. Ever since then they have been carefully lifted, divided and re-planted about every second year, and no protection whatever has been given during the winter months.

In dividing the bulbs, the offsets are carefully separated from the old parent and any spent bulbs thrown away. The finest bulbs are then planted in the centre of the bed, and the smaller ones form the border. Even the very young bulblets bear flowers. Some are to be seen flowering with a growth of only 2ft. from the ground. The first year following re-planting, after the soil has been enriched by fresh leaf-mould and turf, the flowers are particularly large, but somewhat fewer in number. The illustration depicts the second year's growth, when the spikes are weighed down with a multitude of blooms.

The situation of the garden is rather exceptional. It slopes down towards the north, where Brodick Bay stretches out and Goatfell towers aloft in the distance. To the east it is sheltered by the house, but is open to the sun from the south-east to the south-west. Tall Larch and Firs border the western slopes and mingle their fragrance with the exquisite perfume of the flowers.

The climate is mild and rainy, and there are no very great extremes of temperature either in winter or summer. The soil is a sandy loam, mingled with substances usually present in carboniferous strata, and is well drained, though retentive. Arran is famous for Potatoes, and many notable varieties have been introduced here, but it is none the less remarkable that Lilies such as these should flourish, and that nothing approaching them in size or profusion can be found anywhere round about. E. W. T.

LILIUM AURATUM SEVEN FEET HIGH AT BRODICK, ARRAN.
The bulbs were first planted thirty years ago.

SOME ATTRACTIVE GREEN-LEAVED HOLLIES

The Best Time for Planting is Within the Next Few Weeks

THE Hollies include a large number of species and varieties which differ very much in habit and leafage. Some are little better than curiosities, and are only worth planting in places where full collections of varieties are grown. Others are among the most beautiful hardy evergreens, and are worth places in gardens where tree and shrub collections are limited to choice subjects. Fortunately, Hollies thrive in a variety of soils and under many conditions, for they succeed in light and heavy loams, light clays, and also in peat, while they withstand exposure to full sun and also the rather dense shade of woods. They

A HANDSOME HOLLY FOR THE LAWN, ILEX AQUIFOLIUM PENDULA.

are often common in Oak woods, and are very effective both in the New Forest and in the Forest of Dean. Unfortunately, many people think that good Hollies can only be produced by keeping the plants pruned hard back in the same way that hedges are clipped. This is the greatest mistake imaginable, for freely grown specimens are infinitely more beautiful than those that have been clipped into cones or pyramids. Unclipped Hollies also form very effective informal hedges, and an avenue effect is produced by two long lines of well grown plants in the village of Whitmore in Staffordshire. The trees stand a short distance back from each side of the public road on a gentleman's estate, the branches slightly overhanging the highway. They are very uniform in height, roughly about 25 feet, and the avenue extends for a distance of several hundred yards. The idea is one that might well be copied, particularly in a wooded district. When seen in November many of the trees were covered with fruit, and on a bright day the effect was very good. When planting Hollies the mistake is often made of giving them too little room, immediate appearance is considered instead of the effect likely to be produced after twenty years' growth. This is one reason why so much clipping is practised. If, in the first place, plenty of room is given so that the trees may develop naturally, then pruning can be limited to drawing out a wild shoot here and there and the removal of the lower branches that are inclined to become buried in the ground. If the effect of the original planting is too bare, it is an easy matter to fill up the space with plants that can be removed as the Hollies grow.

Providing due care be taken to remove a good ball of soil attached to the roots, comparatively large Hollies can be transplanted, and such trees serve a very useful purpose, for they produce a good general furnishing effect and are excellent subjects for blocking out undesirable objects. But if even small Hollies are transplanted carelessly they frequently die. The best time of year for transplanting Hollies is May, followed by early September, and nursery plants that are to be taken out eventually should be transplanted every second year.

Species of Hollies are best increased by seeds. Varieties may be raised from cuttings inserted in a close, cold frame or under a hand-light in May, or they may be grafted or budded upon stocks of their respective types. The latter practice is objectionable from the fact that suckers often appear from below the union of stock and scion, and are difficult to check.

Male and female flowers of Hollies are borne on different trees, and this explains why some trees never bear fruit. A male tree bears no fruit, but a female tree may mature a good many fruits, even although no male plant stands in the immediate neighbourhood. In such a case a very small percentage of the seeds are fertile, the pollen for the fertilisation of those flowers having been carried by bees.

When selecting green-leaved Hollies for garden or park, care should be taken to choose those that are suitable for the positions. For instance, where there is an air of natural wildness about the position, the common Holly (Ilex Aquifolium) or its free-growing varieties should be chosen. For gardens and formal parks where there is an unlimited space the large-growing species and the large-leaved hybrids are desirable, while for restricted areas there are low-growing forms of I. Aquifolium and several species that can be tried. Abnormal forms with curiously twisted branches and contorted leaves should be reserved for out of the way places or for gardens where full collections of varieties are grown.

Of the numerous Hollies available for gardens the following are of special merit: Varieties of Ilex Aquifolium.—I. A. fructu-luteo resembles the type in every respect, except that it bears yellow fruits. Seedlings raised from this vary a good deal in the colour of the fruit. Pendula is distinguished by the distinct pendent branches. It forms a handsome specimen, but must be given plenty of room to develop its true character. Angustifolia is a small-leaved variety with a slender, compact, pyramidal habit, excellent for a small garden. It bears fruit, but not very freely. Ciliata is a neat-growing bush with small leaves, and is suitable for a small garden. Compacta usually grows in low bush form. It can be planted in places where a bush 3 feet to 4 feet high is desired. Handsworthensis and myrtifolia are also suitable for a small garden where low bushes are needed. The leaves are small in both cases. Camelliæfolia is one of the best of the large-growing forms. It is a fruiting variety of stately, pyramidal outline, producing large, dark, glossy leaves which bear but few spines on the margins. Donningtonensis, Smithiana, and Whittingtonensis form a trio of handsome plants with narrow, irregularly spined leaves. All are male plants. Fisheri is a distinct variety with large, dark green leaves armed with a varying number of spines. Integrifolia and laurifolia are compact-growing varieties in which the leaves are spineless or almost so. Both form handsome bushes, and are desirable alike for large and medium-sized gardens. Scotica is a dense-growing bush with glossy green, spineless leaves, and is very distinct from other varieties; while ovata is also very distinct by reason of its regular-sized oval leaves with evenly toothed margins.

Among large-leaved Hollies a few good ones are Ilex platyphylla, a large-leaved species from the Canary Islands. The leaves

often 4 inches to 5 inches long and 2½ inches to 3 inches wide. Plants bearing male or female flowers may be found. I. p. maderensis or I. maderensis is a distinct, large-growing plant with bright green leaves about 3 inches long and up to 2 inches wide. I. altaclarensis is a large hybrid tree with dark green, ovate or oval leaves up to 4 inches long and 3 inches wide. It is a very fine hybrid, but requires plenty of room. I. Hodginsii, I. Mundyi, I. nobilis, I. Wilsonii and I. Shepherdii are other large-growing hybrids of considerable value.

A selection of distinct evergreen species for general planting is as follows: I. cornuta, the Horned Holly of China, a very distinct bush, usually developing with a dense low head. The leaves are curiously shaped, more or less oblong, and each one armed with five stout spines, three at the top and two at the bottom of each leaf. I. crenata from Japan is a small-leaved bush often but 3 feet or 4 feet high, but of distinct and ornamental appearance. It can be planted with effect on the margin of a lawn or in the rock garden. I. dipyrena, the Himalayan Holly, should be planted in the milder parts of the country. It grows into a large bush, and is distinguished by its dull leaves and small, slender spines. I. integra is a very distinct species from China and Japan. The leaves are dark green, rather thin and spineless. It forms a compact pyramidal bush at least 15 feet high. I. opaca occupies the position in North America that the common Holly does here. Its leaves are dull and paler in colour than those of I. Aquifolium, but the fruits are quite as bright and attractive. Although the above selection by no means exhausts the Hollies, either species, hybrids or varieties, sufficient are mentioned to guide intending planters in their selection.

W. D.

SAXIFRAGA WILLIAM ALLAN RICHARDSON

I was interested to read an article by myself on "A New Saxifrage," in March 5 issue, page 115, for since writing it I had forgotten all about it, but had, on the other hand, found out several things about the subject of the note. The Saxifraga in question, S. cæsia × S. aizoides aurantiaca, seems to have come to stay, though it is not quite the new plant I thought it to be when I first raised it and wrote about it, for I now find that a natural wild hybrid is recorded under the name S. Forsteri (Stein), which is a cross between S. cæsia and S. aizoides type.

Now the type plant S. aizoides has golden yellow flowers, whereas the S. aizoides variety aurantiaca which I used as pollen parent of my hybrid has rich orange flowers, and this probably accounts for the buff orange colour of my plant being richer than the butter yellow given as the colour of the wild hybrid. It is a very prosperous little plant, and last May a specimen in a pan flowered with extraordinary freedom. So far I have not obtained any secondary hybrids from my plant, nor have I succeeded as yet in crossing S. cæsia with that glorious mahogany red form of S. aizoides called atro rubens. This should be no more difficult than the cross I did make and I hope yet to bring it off. The result *ought* to be very fine.

Of course, the name which I suggested provisionally S. William Allan Richardson can no longer stand. My hybrid is S. Forsteri, although coming apparently being itself a variety of S. Forsteri of improved colour it may be worth distinguishing with a varietal name. I propose to distribute it as S. Forsteri Elliott's variety. I have now on the stocks another hybrid from S. aizoides aurantiaca. The seed parent was a particularly attractive form of S. primuloides which I found in the Pyrenees, with flowers of a conspicuously deep bright pink. A brilliant baby London Pride only 3ins. or 4ins. high. I picked out this beautiful little plant on the wet rocky slopes below the Lac d'Oo, and have grown it ever since. Crossed with the orange form of S. aizoides it gave good seed, which germinated well, and I have an interesting looking lot of seedlings pricked out into a pan. Some of these show signs of resembling in leaf the seed parent, others the pollen parent. Only one of these seedlings can possibly flower this year, but as they do come along to maturity they promise a lot of interest. My Forsteri hybrid, by the by, was not a chance seedling, but the result of a deliberate cross.

Stevenage. Clarence Elliott.

TWO LITTLE KNOWN RHODODENDRONS

Rhododendron hippophæoides.—The distinct glistening silvery scales on the leaves of this Chinese Rhododendron suggest the leaves of an Hippophæ, hence the specific name. It was collected during 1913 both by Mr. Kingdon Ward and Mr. George Forrest in several districts of Yunnan, where they describe it as a dwarf shrub up to 5 feet high, forming wide carpets of growth. Under cultivation R. hippophæoides is a much-branched, upright-growing bush, with narrow leaves exceeding 1 inch in length. There is considerable variation in the colour of the flowers, which include lavender, mauve, purple-blue and bluish rose, while at least one of Mr. Forrest's seedlings could be described as rosy pink. In addition to ripening seeds freely, this species is readily increased by cuttings, preferably taken from plants grown for the purpose in a greenhouse. To the hybridist the subject of this note should

THE PURPLE-FLOWERED RHODODENDRON HIPPOPHÆOIDES.

be very useful, one cross suggested being with R. racemosum.

Rhododendron campylocarpum.—This evergreen Rhododendron is a native of Sikkim Himalaya, and was first introduced in 1851. Found at a elevation of about 12,000ft., it is on the borderland of hardiness. In the favoured parts of the south and west R. campylocarpum is a delightful close-growing twiggy shrub averaging 5ft. to 7ft. or 8ft. in height. At Kew several bushes in a sheltered position near King William's Temple are very healthy and flower freely each year. They are grafted on R. ponticum stocks and are evidently a happy union. The bell-shaped blossoms are 2½ins. to 3ins. across, borne in clusters of five to about nine flowers. There is some variation in the intensity of the sulphur yellow colour, those of a deeper shade being particularly pleasing. R. campylocarpum has been used as a parent in the endeavour to obtain a large, rich yellow-flowered evergreen Rhododendron. The result in this direction is disappointing, though several of the hybrids, notably Margaret Bean, Rev. J. H. Rashleigh and Mrs. Kingsmill, are very beautiful

A. O.

BELL-SHAPED SULPHUR-YELLOW FLOWERS OF RHODODENDRON CAMPYLOCARPUM.

New and Rare Plants

FIRST-CLASS CERTIFICATE.

Magnolia Veitchii.—A very remarkable and interesting hybrid between the wonderful Magnolia Campbelli and the Yulan or Lily Tree. It is said to be the first Magnolia hybrid that has been intentionally produced. There are other hybrids, M. Soulangeana, for instance, which were obtained accidentally. The flowers of M. Veitchii are larger than those of M. conspicua, though not so large as the highly coloured M. Campbelli, which, by the way, is now flowering at Kew for the first time—only a solitary flower is borne after twenty years or so. The flowers of M. Veitchii are long and pointed in bud, flushed deep rose in the lower half of the blooms. Shown by Messrs. R. Veitch and Son, Exeter.

AWARDS OF MERIT.

Rhododendron Werei.—A very beautiful variety with a full truss of clear bright pink flowers. Parentage: R. arboreum × R. Thomsonii.

Rhododendron Robert Fox.—One of the most striking crimson-flowered Rhododendrons ever seen, its only fault being that the truss is rather loose. It was obtained by crossing Rhododendron Thomsonii and Glory of Penjerrick. A distinct acquisition for Southern gardens. Both shown with other beautiful varieties by Mr. Smith for Mr. R. Fox, Penjerrick, Falmouth.

Primroses Spetchley Strain.—The flowers of these are large and attractive. They do not, however, seem to be so freely borne as is the case in other strains.

Narcissus Crown Imperial.—A self-yellow Ajax of maximus descent and richly golden in colour. The rim of the crown is well flanged and conspicuously lacerated.

Narcissus Imperator.—Brother or sister—as you will—to the above named, and of the twain the more handsome and perhaps richer colour. Stature is a great point with each of them. These were from the Rev. G. H. Engleheart, Dinton, Wilts.

Saxifraga Mira.—A charming addition to the Kabschia section of the genus. The half-inch high flowers are coloured pink, paling to the edges. It was raised by the late Mr. Farrer and now shown by Mr. Clarence Elliott, Stevenage.

Saxifraga hybrida H. Marshall.—A beautiful and free-flowering novelty not far removed from S. Irvingii in habit of growth, having larger flowers and parted petals. The small plants were remarkably well flowered. We believe it to be descended from S. Irvingii crossed with S. lilacina.

Saxifraga Pompadour.—A mossy sort of dwarf habit and particularly large, well formed, brilliantly coloured flowers. These were from Mr. M. Prichard, Christchurch.

Saxifraga Jenkinsiæ (S. Burseriana major × S. lilacina).—This beautiful hybrid appealed to a very large number, and is quite an acquisition. The solitary flowers are openly funnel-shaped, shell pink colour and poised on 2in. high peduncles with exceptional freedom, the solitary specimen carrying three dozen of them fully developed. Disposed on a perfect mound-like cushion of growth, every flower told to advantage. The new-comer, too, is obviously a fine grower. Shown by Mr. E. H. Jenkins, Surbiton.

Rose Margaret Horton (H.T.).—A novelty of exquisite charm and comeliness. A seedling from Ophelia and another, it is possessed of all the good attributes of that well known variety—shape, length of bud, length and strength of peduncle, and not a little scent. Deep apricot to golden mark its colours well. The flowers appear from healthy foliage, which in youth is of deep bronzy hue. Shown by Mr. Elisha Hicks, Twyford.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Clematis.—Early April is a suitable time for planting these popular climbing plants. They are useful for pergolas, bowers or pillars and should be planted in conjunction with other climbers, as this enables the tendrils to get hold of a support. Another point to bear in mind is that some shade should be afforded the roots of Clematis, if possible, by means of dwarf shrubs or suitable herbaceous plants placed near, for although the upper portions of this climber delight in sun and warmth, the roots do not. The soil should be on the rich side, and it is an advantage to mix some old mortar rubble or chalk with it.

Spring-Flowering Plants, such as Wallflowers, Polyanthus and Myosotis, in beds and borders, should be looked over, deficiencies made good and the soil lightly pricked over, and if this is of a poor nature, a light sprinkling of bone-meal at this stage will considerably assist the plants or bulbs.

Hydrangea paniculata, in beds or borders, should now be pruned by removing weakly wood and shortening the other growths according to vigour, leaving about two to six buds. Planting of additional groups or beds may now be done.

The Kitchen Garden.

Asparagus Beds are best made and planted in early April. The nature of the soil will, to some extent, govern the method of making the beds, for in some districts where it is very light they may be made practically on the level, while on heavy soils they must be made from 9ins. to 12ins. above it. Beds 3ft. in width are suitable, and this will allow of three rows 1ft. apart and the same distance may be given the plants. The ground should be thoroughly trenched and well manured. Two good varieties are Giant French and Conover's Colossal, and roots of one, two or three year old plants may be planted. The two year old are, perhaps, the most suitable for general use, but when the three year old plants are used a light cutting may be expected the next year.

Rhubarb.—This subject will stand for some years when once established, so the ground should be well prepared when forming a new plantation. If contemplated, the work should be pushed through now as quickly as possible.

Mushrooms.—Where an all the year round supply of these is required an arrangement should be made for the summer and early autumn crop to be grown in beds out of doors, unless a really cool shed or store is available.

The Hardy Fruit Garden.

Watering.—It is essential that newly planted trees do not suffer from lack of moisture, particularly on light porous soils is it necessary to guard against this, and also look to those trees growing against walls or other places which may have an overhanging coping.

Plants Under Glass.

Perpetual Carnations.—Continue to pot off successional batches of cuttings as soon as ready, using a light compost, and grow the young plants in a light, airy position. If a suitable house cannot be devoted to them, pits will do quite well. Plants requiring 4in. or 5in. pots should be potted somewhat firmer than the smaller ones, and the compost for them should be more loamy. An occasional syringing is beneficial and helps to promote clean, healthy growth and maintains a sweet atmosphere. A careful watch must be kept for greenfly. The plants may be pinched when about 8ins. high to induce them to break.

Frame Violets may be propagated by severing the runners and dibbling them in boxes or pans of light sandy soil, afterwards placing them in a Peach house or vinery. When rooted, transfer to frame and harden off previous to planting out on a well-prepared piece of ground.

Cyclamen passing out of flower and to be retained for another season may be removed to cold frames and water gradually withheld.

Clivias.—Those throwing up flower-spikes should be given some weak manure water, as it helps to enrich the colour of the flowers. When the flowering period is passed, potting may be done if necessary. Use a good turfy compost as the main part, tightened with some spent Mushroom manure, leaf-soil and sharp sand, and give ample drainage.

Fruit Under Glass.

Treatment of Vines.—Attend as necessary to the disbudding, stopping, tying down and thinning of the bunches. The watering of the borders, too, is a most important point, and when necessary should be thoroughly done. Vines carrying a swelling crop may be given a soaking of warm water, to which has been added some approved fertiliser. After the stoning period such a watering will greatly assist the final swelling of the berries, as will also a good mulching of well rotted cow-manure applied to the border and thoroughly watered in.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—With the advent of April vegetation is more active. With increasing sunshine seedlings will make rapid progress, but in our northern gardens sharp frosts are common during April, so additional care is necessary in the protection of newly planted vegetables and early sowings of Turnips, a few light Spruce branches laid over the lines at night making all the difference between a successful early crop and failure. Lose no time in clearing off all spent winter vegetables and get all necessary digging finished. Mark off and prepare Celery trenches so that time may be saved to cope with pressure of work later in the month.

Turnips.—A sowing of Early Milan varieties may now be made on a sunny border. The early crop of these fresh young roots is much esteemed. It is not advisable to be in too great a hurry with outside sowings of these, as they suffer readily from frost, but should the weather prove favourable the gain is great.

Carrots.—If an early border is available, a few lines of Early English Horn or Early Nantes should be sown.

Cabbages.—When early sowings have been made to supplement the autumn-planted crop they should be got out on the first favourable opportunity. Where slugs are troublesome give a dusting of lime or soot round each plant.

French Beans.—Where there is plenty of accommodation under glass it is not difficult to keep up a good supply of these. Sowings may be made along the front of Tomato boxes without detriment to the Tomatoes, and an excellent catch crop may be had in this way. Sow also in small pots for planting out in cool frames. These will give good returns until pickings may be had from the open. We favour Canadian Wonder and Sutton's Superlative for this purpose.

Chives.—These, although largely out of favour in some districts, are occasionally asked for during early summer for seasoning purposes. If an increase of stock is desired, now is the time to have the clumps broken up and replanted.

Cucumbers.—Make sowings singly in small pots for growing on and planting out in frames for succession. Early plants growing in pits should be setting freely now, so if fruit is visible stop the Vine, as this aids in the development of the fruit and evens the growth of the plant generally.

Plants Under Glass.

Perpetual-flowering Carnations.—Plants raised from cuttings struck in January may now be moved into 4in. pots and kept growing freely; maintain a buoyant atmosphere. Plants which have been flowering during the autumn and winter months should receive some suitable stimulant so that good strong flowers may be produced. Syringe occasionally with an insecticide so that red spider and other insect pests may be kept in check.

Hydrangea hortensis.—Early started plants will now be showing flower-trusses, and may be encouraged with some fertiliser so that fine heads of bloom may be assured. Later lots in frames may now be taken in hand, being shaken out and repotted in a generous mixture.

Begonia Gloire de Lorraine.—Plants that were cut over some time ago with a view to obtaining cuttings should now be throwing up some nice growths. Basal cuttings make the best plants, and should be slipped off when 2ins. or 3ins. in length. Dibble into small pots filled with a sharp compost, plunge in a close case and spray occasionally, and they will be

The Conservatory.—The various climbing plants on pillars or wires will now be growing freely. Cut out all superfluous growths and give every opportunity for the proper development of the ones that are left. A top-dressing of Thomson's Manure will prove a benefit to plants growing in borders or to others that may be growing in tubs and not of convenient size for replanting.

The Flower Garden.

Biennials.—Transfer to their flowering quarters Canterbury Bells, Agrostemmas, Sweet Williams and any other hardy plants which may have been grown in the nursery garden with a view to filling the mixed border or other beds.

Gladioli.—Plant the hardy types, such as Brenchlyensis in the open now. They are most effective when grouped in bold clumps in the herbaceous or mixed border. Other sorts that may be grown with a view to blending among summer bedding plants should be started in pots and grown in a cool house.

Clematis.—The Clematis as a hardy climber is deservedly popular, and we find the present time most suitable for planting. They appreciate a good soil with a sprinkling of lime rubble added to it. The Jackmani varieties are delightful, but pride of place must be given to the lanuginosa section. This type flowers on the previous season's growth, so should only be thinned out and the young growths tied in. When selecting plants buy from a reliable firm and avoid the Continental rubbish which is being dumped in our open markets at present. Plants of such, which the writer has seen lately, would be dear at any price.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

ANSWERS TO CORRESPONDENTS

Questions and Answers.—*The Editor endeavours to make* The Garden *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* Editor *of* The Garden, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* Publisher.

FLOWER GARDEN.

Saxifrages for shade ("Saxifrage").—Many of the "mossy" and other Saxifrages do quite well in shade, though that of a large Yew tree would be abhorrent to most of them. The shade in such a case is reduced to semi-darkness incessantly, owing to its density and the sombre and evergreen character of the tree. The most likely of the Saxifrages would be S. Geum dentata, S. umbrosa gracilis, or the Mossy S. muscoides atro-purpurea. Even better than the Saxifrages and of more carpeting habit of growth would be Herniaria glabra or Helxine Solierolii. Of these we suggest that our correspondent should try the last named. Its flowers are practically nil; its carpet of Pea-green attaining little more than an inch high. Through this Snowdrops might readily pierce and prove an appropriate ornament at this season of the year.

Daffodils unsatisfactory (H. B.).—If in conjunction with light loam there is an absence of soil depth, and a considerable degree of dryness, then not a few, being unable to reach a flowering condition because of these shortcomings, would, most likely, resolve themselves into the bredder condition and later, when lifted, split up as a result. Jonquils are not usually more successful than the rest, though the Jonquil hybrid, Buttercup, makes fine growth, flowers well and increases freely in a soil which is virtually of a heath character. Hardly any other, however, is a like success and many good ones die out completely. Our correspondent does not say anything about the depth of the light loam and the county it is a part of.

ROCK GARDEN.

Crocuses and Saxifrages attacked by moorhens (H. M., Northampton).—It is sometimes possible to trap moorhens by smearing sections of reeds with birdlime and laying them about in the places the birds frequent. By feeding the birds for a few days before laying the traps more birds can be caught.

Carpeters for alpines.—I have been reading Mr. Farrer's most interesting book, "The English Rock Garden," and I notice he insists on the necessity of not having any bare or uncovered ground in the rock garden. Even the smallest alpines, he says, are the better with some sort of covering over the roots. I should be glad if you would give your experience of carpeting plants. Mine is, that rare plants get choked unless the ground is kept perfectly clear and free. I have tried nearly every creeping and carpeting plant, and so far I have found none that does not get into the crowns of the small treasures and choke them. For instance, the brown leaved Oxalis is charming till it settles down; then my whole energy is spent in clearing it out. Arenaria balearica ramps most delightfully over big boulders and is a great feature on the cliffs, but the strongest plant near has not a chance after a year or two. Mentha Requieni and Alsine are all over the place in a very short time. The dwarf white Thyme, which looks so innocent, has taken possession of a Heather bed, and now we have green cushions several feet round—lovely, no doubt, but strangulation to the Heather. Of course, there are others, like Stachys corsica, some of the Saxifrages, Campanulas, Veronicas and Raoulias, but they do not grow more than an inch a year, and so are equally useless. I have a moraine full of Gentiana verna, but what can be a carpeter there. One reads of it flowering in grass, but I am afraid in most cases there would be no Gentian. Some real ramps do hold their own. There is a lovely combination of the common Saxifrage, which acts as a cushion, and through it comes Arenaria montana and hangs down in sheets, but every year I expect it to be strangled. Veronica rupestris and Crucianella stylosa both hang in a tangle down a cliff, and the effect is excellent; but already I notice the Veronica is getting suffocated. What I want is a neat, flat carpeter that will cover the ground slowly and not suck out the life blood of the treasure it is meant to protect.—N. S. C., Surrey. [Just what would be suitable material to use for carpeting alpine plants when freely grouped in the rock garden would depend upon locality, the plants employed—principals and carpeters—and experience on the spot. It is probable, too, though we have not got Mr. Farrer's book at hand to refer to, that its author, like-circumstanced as our correspondent, would have bowed to circumstance and found substitutes for the several forms of vegetable life mentioned, which not only increase the labour bill and afford worry, but in not a few instances might jeopardise the existence of some of the plants themselves. We say this advisedly, recalling how often—invariably, in fact—Mr. Farrer carpeted his treasured exhibits of the choicest alpines at the Temple Shows with finely broken granite chips, quite content that these should play the part, rather than that the soil or fibre in which they were bedded should be seen or littered with rusty or rubbishy moss to hide or belittle them, as not infrequently is the case. And just what Mr. Farrer did in the exhibition tent so we believe he would have done in the garden. As our correspondent correctly observes, one cannot carpet to advantage the Vernal Gentian in the moraine with other forms of vegetable life, and if the result is a trifle imperfect or incomplete according to Nature the success of the treasure itself counts higher than rule of thumb details that circumstances render impracticable or impossible. Our correspondent appears already to have tried practically everything of carpeting value—slow growers and stranglers—though the list does not contain Sedums lydium and hispanicum glaucum, the tiniest mossy Saxifrages, as S. muscoides, or that jewel of grey carpeters of the Kabschia set, S. Salomoni, which, while shy of flowering, has no equal for the object in view. This set of four provides two of grey leafage and two of green, "stay-at-homes," withal, which is what our correspondent is seeking. Obviously our correspondent has enough of the irrepressibles that penetrate everywhere and overwhelm things. The alternative to carpeting, as usually understood, would be that of planting over-all with subjects of a contrasting nature, preferably on a slightly undulated surface. Then, by free propagation and generous planting, the surface-covering idea would be achieved, and the treacherous and undesirable eliminated. Above all, it would be gardening of the best *and with the best*. Of necessity, this intergrouping of the subjects would require some thought, since plant association and fitness would have to be considered. By reserving a place apart, however, the smallest growers—*e.g.*, Saxifraga baldensis, S. Valdensis (true), S. Irvingii, S. Cochlearis minor, Myosotis rupicola, Dianthus alpinus, D. microlepis and D. sub-acaulis—could be readily accommodated and given a chance. Another plant which flowers is Silene acaulis saxatilis, a desirable thing, particularly when raised from cuttings. Elsewhere, of course, the freer growers could be given scope according to *their* needs. In any case it is a way out of a difficulty, and a delightful one withal. And the planning, propagating and planting work it would entail would be time better spent and fuller of interest than the endeavour—not always successful—to keep in subjection those that threatened the extermination of others far more desirable. —Ed.]

TREES AND SHRUBS.

Rhododendron foliage attacked (E. N. J., Oxford).—The Rhododendron leaves have been badly attacked by a sucking fly called Stephanitis rhododendri. This insect is becoming increasingly common on Rhododendrons, and it would be well to do the utmost possible to check it. Spraying with nicotine wash would probably be the best specific, and it should be done at the end of May or in the first week in June, for the insects are then active on the foliage.

FRUIT GARDEN.

Pears attacked (H. P. C., Hants.).—The Pears were not attacked by the Pear mite, but by the Pear midge, a very small, two-winged fly that lays its eggs in the flower. There is little that can be done now, unless it be to stir the soil beneath the trees and turn fowls out to pick up the chrysalides. This should be done at once. In May and certainly before the end of the month, the misshapen fruits containing the grubs should be picked off and burned. This will prevent infection in another year if the picking over can be done thoroughly.

KITCHEN GARDEN.

How to grow succulent and crisp Lettuce (M. E. D., Stirlingshire).—Such Lettuce can be had in private gardens where competent gardeners are in charge, if only the owner will go to the expense of growing them, an item of expenditure which very few owners will sanction. With the market gardeners around Paris it is a special department of gardening, not only for supplying the large demand in France, but also for export. This industry has been carried on for generations in France by experts in the business. There is no secret as regards the nature of the culture necessary to adopt to secure such results. It means a large expanse of glass for the accommodation of the plants during winter and early spring, and also intensive culture of the soil and an inexhaustible supply of organic manure. The latter is the great motive power which produces the quick, tender and crisp growth in the Lettuce, as it does in most vegetables to which it is applied, so essential to salad plants, which are eaten uncooked.

MISCELLANEOUS.

Treatment of Clematis under glass (N. T., Liverpool).—As the Clematis has produced its flower buds it would be advisable to allow it to flower before pruning the branches. It is quite natural for flower buds to appear before the leaves are fully grown.

Names of plants.—L. R. H., Monte-Carlo—(1) Flower of Anemone Hepatica; (2) Leaf of a Ranunculus, probably R. aconitifolius.——I. F. S., Somerset.—Coronilla emerus, Scorpion Senna.

SOCIETIES

National Chrysanthemum Society.

On Tuesday evening, March 15, the Executive Committee held a meeting, Mr. E. F. Hawes presiding. The minutes of the preceding meeting were read and confirmed, from which it appeared that the Executive Committee will assemble on September 19, October 17, November 28 and December 12, 1921. The meetings of the Floral Committee will take place on September 19, October 3 and 17, November 3, 14 and 28, and December 12 next.

The death of Mr. Froome, Honorary Secretary of the Finchley Chrysanthemum Society and its delegate to the N.C.S. Executive Committee had recently taken place. A silent vote of condolence with the family was taken. To fill a vacancy on the Floral Committee, Mr. Charles Davis was elected, and there being three seats vacant on the Executive Committee, Messrs. W. W. Roots, W. Clark of Chingford, and Pateman were appointed to fill them.

The various sub-committees were reconstituted by filling up vacancies arising from death and other causes. The schedule for 1921 was then submitted in draft and being on almost identical lines with that of the past year was agreed to without discussion. The prizes, owing to the liberality of special donors, will cost the Society rather less than half of the total offered, apart from the silver cups.

The question of publishing "The Transactions" and continuing the educational meetings caused some interesting discussion. It is hoped that the former, in some shape or other, will be renewed, while support from various members was promised in respect of the latter.

Mr. Harman Payne reported on the Congress and Exhibition at Le Mans, which is now well on the way. This will be not only a Chrysanthemum Show, but an International Exhibition of Horticulture in general. British exhibitors and visitors will have a most cordial reception, and will be represented on the jury. Special arrangements will be made for exhibits going through the Customs without vexatious delays. Mr. Payne (195, Wellmeadow Road, Catford, S.E.) has had a special interview with the officials at the French Embassy on this subject, and will be pleased to give full details.

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THE GARDEN

No. 2577.—Vol. LXXXV.] [April 9, 1921.

NOTES OF THE WEEK

THERE is still time, though only just time, to plant perennials for a display this summer. The illustration on the front cover of this issue gives a good idea of the pleasing effect obtained by flower borders and archways. Here we see well proportioned archways in the wall of the old kitchen garden at Harleyford, Marlow. The archways are clothed with Clematis montana, Wistaria chinensis, Vitis purpurea and Ampelopsis hederacea, the whole forming a pleasant canopy to an opening through which the flower borders and grass walk are seen.

The New Rose Margaret Horton.—As announced in our last issue (page 166) this new Rose gained an award of merit when shown by Mr. Elisha Hicks at a recent meeting of the Royal Horticultural Society. It is a seedling from that good Rose Ophelia, and makes a fine full-sized bloom, rich apricot in colour, the outer petals paling off a little in the early part of the season. The habit of the plant is admirable, the flower-stems, which are particularly stiff, appear from healthy foliage.

A New Rhododendron for the Rock Garden (R. intricatum).—Among the many new Chinese Rhododendrons introduced to our gardens during the last twenty years, this is one of the most distinct and valuable additions to the family. Averaging apparently from 9ins. to 12ins. high, it is a charming little evergreen bush for the rock garden and to cultivate in beds, as we do the Heathers and Ling. Near the Cactus House at Kew, two beds of this Rhododendron, each containing over 100 plants, have attracted very considerable attention throughout the month of March. Freely clothed with dainty lilac blossoms, it is a very valuable addition to our early spring flowers. A native of Szechuen, Mr. E. H. Wilson discovered this species growing at 11,000ft. to 15,000ft. elevation, sending home seeds to Messrs. Veitch in 1904. A plant so easily propagated by cuttings and layering should soon be found in most gardens now that our war-time troubles are fast disappearing.

A Free Flowering Japanese Cherry (Prunus subhirtella).—Each succeeding year seems to emphasise more and more the value and charm of this Japanese Cherry. A twiggy tree of moderate height, the pink-tinted white blossoms are freely borne in clusters on the slender shoots. The trees are usually at their best at the end of March, but this spring the blossoms, in common with most flowers, are a few days earlier. In addition to the value of the tree in the garden, the twiggy flowering shoots are useful to cut for vases, lasting well when cut in a half-opened state. Introduced to Kew from the Arnold Arboretum in 1895, Prunus subhirtella thrives in most soils and is one of the easiest trees to increase by cuttings, the half-ripe young shoots rooting readily in a close frame.

Plants now Flowering at Kew.—The Magnolias are the chief attraction in the open, the star-shaped blooms of M. stellata and the Tulip-like flowers of M. Soulangeana being now at their best. Various Prunuses are flowering, also the Cydonias. In the Temperate House are several small trees of Pyrus Scheideckeri, literally smothered with bloom, the rose-coloured flowers are very effective.

A SEEDLING FROM OPHELIA. THE NEW APRICOT COLOURED ROSE MARGARET HORTON.

Lilacs are also in flower in this house and fil the air with their delightful fragrance. Other interesting subjects in the Gardens are the Daffodils and Rhododendrons, while the conservatory is full of interesting plants now in full flower. Some idea of the beauty of the Daffodils in the woodland may be obtained from the illustration on page 173, while the Magnolia and Stachyurus illustrated on other pages of this issue are also to be seen at Kew.

Androsace foliosa.—Of many Androsaces this Himalayan species stood the severe test of a mild winter better than any other. It is a strong and robust grower, forming, instead of rosettes, bold tufts of large leaves only slightly hairy. The flower stems rise from amid these in early May and remain in bloom for many weeks. A good flower head, with its scores of pinky-lilac blossoms, will, when full-blown, often make an almost spherical mass of colour after the manner of Primula denticulata. A. foliosa is said to be a lover of limestone, but it will prove a good doer in ordinary light loam.

A Fine Barberry.—Berberis Bealii appears to be perfectly hardy and easy. We have it doing well in ordinary woodland loam, which most of its kind find to their liking, and the large horny leaves, often a foot in length, glabrous and spiny, are very handsome at any season. Last year the terminal flower buds shot up into their gracefully arched sprays of purple buds about Christmas-time. At that stage they withstood exceptionally hard weather, and later, when a sharp frost turned the flowers of Rhododendron præcox a sickly blue and crumpled up those of R. nobleanum, the beautiful yellow cockades of B. Bealii were unharmed. Not the least desirable feature of this Barberry is the delicious fragrance of the flowers, a rich Lily of the Valley perfume that is rare in such early subjects.—A. T. J., *North Wales.*

FORTHCOMING EVENTS.

April 11.—United Horticultural Benefit and Provident Society's Meeting. Bath Gardeners' Debating Society's Meeting.

April 13.—Birmingham Daffodil Show (two days). Royal Horticultural and Arboricultural Society of Ireland Spring Show (two days). East Anglian Horticultural Society's Meeting.

April 14.—Huntingdonshire Spring Flower and Daffodil Society's Show

AN IRISH GARDEN IN SPRING

All Readers will be Interested in, and many will be well Advised to Regard as an Object Lesson, this Beautiful Garden, Visited and Described by Lady Moore. It Contains Plants of Rare Beauty and Interest which Thrive Without Special Attention in a Boisterous Situation.

THE following notes were taken on March 12 as I walked in a County Wicklow garden three miles from the sea. The soil is a good deep yellow loam, free from limestone:

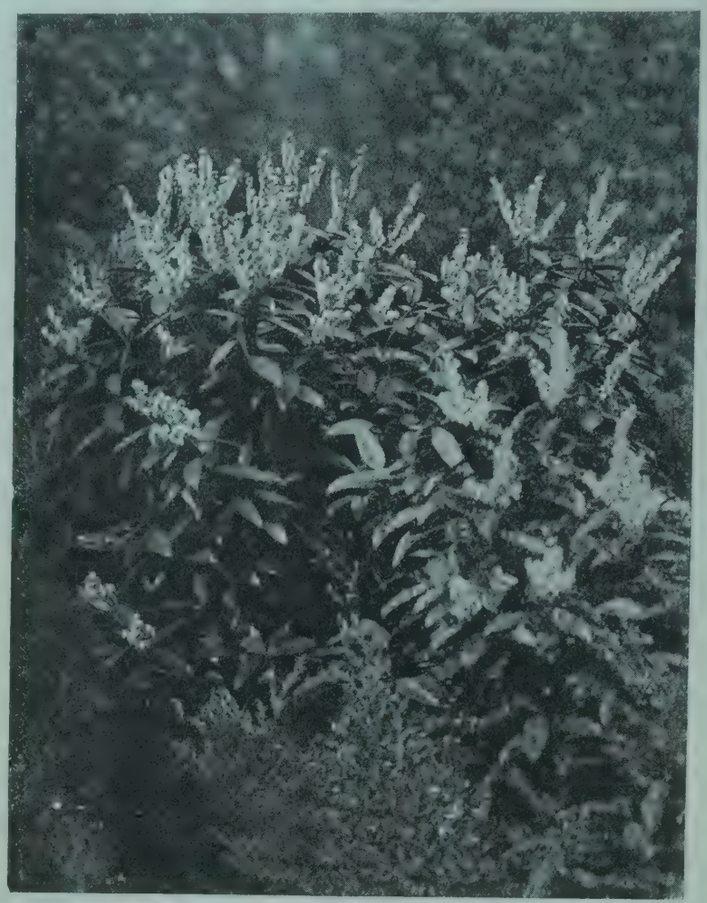
Podocarpus nubigena, a tall, Acacia-like, dark green-leaved shrub; native of South America; a very graceful grower. Beside it Abies religiosa, which has suffered in appearance through being blown down twelve years ago. The original head was cut out, the trunk raised and replanted, and it is now 25ft. high. This Abies is planted round the temples in Mexico. It is not quite hardy in the United Kingdom, and is seldom seen.

Rhododendron Delavayi, one of the many good plants sent from China by the French missionary Delavay, was covered with bright, deep crimson flowers, with long, narrow leaves, the backs of which are covered with soft grey tomentum. This plant is 15ft. high and has for companions a very big plant of the rare R. lacteum, the leaves of which have a curious white look, as if they had been painted over with milk. It is not in flower; this plant has flowered, soft cream-coloured trusses. Big plants from the original importation are scarce. R. barbatum Rashleigh's Variety (Himalayan) has very brilliant red flowers and curious bearded stalks, the beards remaining on the old wood in Rashleigh's Variety. They are yellow hairs, not dark, as in the ordinary R. barbatum. This plant came from Menabilly, Cornwall, thirty years ago. R. Shepherdii, which flowers very early, suffers every year from the attentions of tits, who, in their efforts to get at the nectar in the flowers, tear the petals to pieces with their claws, the bright scarlet of the flowers being marred by black scars. R. rhombicum; planted 1905; evidently a slow grower; from Japan; has pale mauve flowers. R. Zeylanicum is one of a group imported from Ceylon by Mr. Arthur Campbell of Arduaine, Argyllshire. It flowers regularly and well; brilliant red, fine large trusses.

The Chinese Snakebark, Acer Davidiana, with its vivid green bark with white lines, stands out in relief from a thicket where Andromeda floribunda, 8ft. through and covered with white Lily of the Valley-like flowers, struggles for mastery with some Ledums.

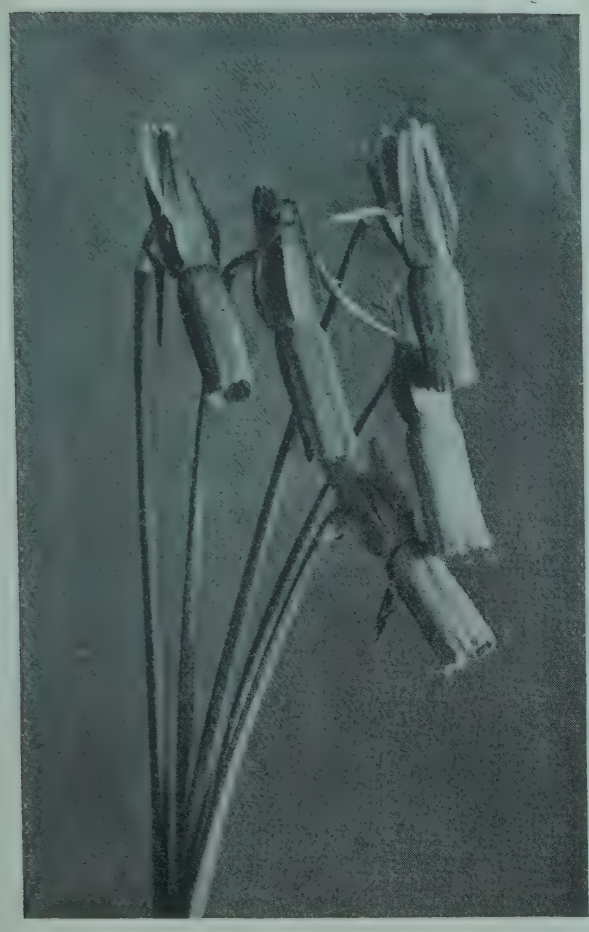
A most remarkable upright-growing Rhododendron from Bhutan is R. Kendrickii, like a Lombardy Poplar in shape, with bright rose-coloured flowers. Beside it, the pink R. arboreum, covered with soft pink flower-heads, the under leaf silvery white. The peeling bark of R. triflorum is very attractive; it is quite transparent, rather like a well sucked jujube! It has yellow flowers, open in May. This is a good plant, 12ft. high, 14ft. through. R. cinnabarinum, which here always looks delicate, is beside a plant of R. lanatum. Planted in 1894, it has made very poor progress; evidently a slow grower. It flowers in May, a pale yellow colour. R. Fordii, from Hong Kong; an indifferent, sulky-looking plant; a contrast to R. eximeum, standing 30ft. high, covered with dense flower-bud heads, which open a creamy white; the leaves are very handsome, 12ins. long, with brown tomentum on top and deep ochre brown on the back. The white R. arboreum showed sheets of flower-heads well open; the tips of the buds a faint pink. A hybrid "R. Thomsoni crossed R. barbatum" has leaves shaped like Thomsoni with the back of those of R. barbatum; the flowers intermediate in colour with the calyx of Thomsoni. This plant was in full bloom. R. Maddeni, the latest of all Rhododendrons to flower in this garden, the end of July and beginning of August, is not hardy; the flowers are white. R. arboreum, true, with a 5ft. trunk circumference, has seeded freely; some of the seedlings are 10ft. high. R. Falconeri, one of the giants of the garden, planted in 1862, is 30ft. high; the circumference of the branches is over 60ft. It blooms regularly and is now covered with heads of flower-buds. R. Roylei, 15ft. high, with beautifully backed leaves, pale green in colour with tiny dark dots, has flowers of a rich ruby colour, translucent, like a glass of port held to the light. R. Keysii, already in full flower, with heads of small pendent tubular flowers, the bright red brick colour one sees in Lachenalias, with yellow tips.

Ulmus parvifolia, also known as U. chinensis, the evergreen Elm from Northern China and Japan; this tree is 30ft. high and retains its leaves throughout the winter and spring. Magnolia Campbellii, planted originally against a wall facing north, now towering above it, 25ft. in height and 30ft. across, carrying nearly a thousand flowers of the purest rose pink, paler inside, as big as a breakfast cup, the buds covered with a brown green sheath, like velvet. The stems are the



A BEAUTIFUL SHRUB THAT DISLIKES LIME. THE EARLY FLOWERING ANDROMEDA FLORIBUNDA.

A RHODODENDRON (R. KEYSII) THAT IS UNLIKE ALL OTHER SPECIES. THE TUBULAR FLOWERS ARE RED WITH YELLOW TIPS.



"WITH ITS EARS LAID BACK LIKE AN ANGRY MULE." (NARCISSUS CYCLAMINEUS.)

same colour as those of an Ash tree; the leaves are not yet developed. It is the most wonderful and striking plant in this garden, or, I venture to say, in any other garden in the United Kingdom to-day. The effect of such a quantity of flowers, of a pure pink without a tinge of purple, as in Magnolia conspicua, against the blue of a March sky is not easy to describe. I went back to look at it again and again; it was enchanting. I thought of all the good gardeners I know and wished they could make a pilgrimage to see it. This plant first flowered in 1906 and has had some flowers every year since. In 1913 it was in good bloom, but never has it put forth such a splendour of bloom as this year; fortunately there has been no frost to spoil it. At the foot of this noble plant grows a fine plant of the rare, difficult, low-growing Epigæa repens (Mayflower), showing its delicate tubular flowers, white at the tip with a pink throat. In Canada on May 1 it is the custom for young girls to go into the woods to search for the blossoms, the fortunate finders being assured of getting good husbands before next May Day.

THE LEMON-COLOURED FLOWERS OF EUCALYPTUS PULVERULENTA ARE SWEETLY SCENTED

Narcissus cyclamineus, with its ears laid back like an angry mule, and N. nanus seed freely in the grass. Abies Pindrow (Himalayas), 50ft. high, has the longest needles of any Abies. This tree is one of the finest, if not the finest specimen, in Ireland. A large tree of Cupressus lusitanica, carrying last year's fruits and clouds of the male flowers, stands well out over a walk that has had to be altered twice to suit the spreading habit of its branches. Near the Cupressus is a well-developed plant of the true Rhododendron Loderi which in 1919 carried forty odd heads of flower. Pieris formosa, 20ft. high, 15ft. across, still holding brown clusters of old fruits, was coming into flower, the long, graceful sprays resembling Lily of the Valley flowers. Eucalyptus pulverulenta, 40ft. high, its blue grey branches covered with lemon-coloured flowers set in dense heads in the axils of the leaves; they have a very sweet scent. When the buds open the calyx comes off like the lid of a saucepan, showing the most beautiful arrangement of incurved stamens; the effect is that of a well raised lemon soufflé, if such a simile may be used. Camellias, red and white, were in flower. C. reticulata not yet open. Restio subverticillatus (Willdenowia teres), 8ft. high, waving soft plume-like branches, defies an Irish winter and gives an exotic look to the shrubbery of Leucothœ axillaris, Gaultheria Shallon and G. acutifolia which form its background.

Xanthorrhiza apiifolia (the Yellow Root), a hard, straggly grower, 2½ft. in height, with sprays of tiny Mulberry-coloured flowers, very like Pleurothallis astrophora in shape and habit. During the Great War enquiries were made about growing this plant for medicinal purposes, but as Sir Frederick Moore, to whom the enquiries were addressed, has known the plant in this garden for forty-two years and has seen little change in its bulk in that time, small encouragement could be given to the would-be growers. A fine young plant of Pinus oocarpa, planted 1907, now 25ft. high, a native of Mexico, is quite hardy here; it resembles P. patula closely. Athrotaxis selaginoides (Chili) is not common. Here is one of the largest, if not the finest in Great Britain. It flowers and fruits freely, and seedlings have been raised from this plant.

Fine specimens of the following flourish here: Abies Webbiana; A. Brunoniana; Pinus Montezumæ; Laurelia serrata, formerly called L. aromatica, until this plant flowered and proved its identity; Fitzroya patagonica, the star cone Cypress; and Fagus Moorei, from Australia, an evergreen Beech, which has lived for twenty-five years against a wall facing north and is quite hardy. This is a very rare plant.

We live in distressful times in Ireland; nevertheless, I think your readers will agree we have some compensations when we can find plants such as I have noted thriving and happy without receiving any special attention or protection in the middle of boisterous March "in Ireland—now . . ."

"ONE OF A THOUSAND BLOOMS." MAGNOLIA CAMPBELLII, COLOUR PURE ROSE PINK.

W. Phylis Moore.

Royal Botanic Gardens, Glasnevin.

A Blue-Flowered Little Creeping Plant

PAROCHETUS COMMUNIS.

A patch of this little creeping Clover-like plant, with its Pea-shaped blossoms growing in ordinary border soil has never done so well as during last summer, thus testifying to its love of moisture. The first of the intense blue flowers, rivalling those of Gentiana verna in colour, appeared in spring and they continued until early December, the best show being in November. Though it comes from Nepaul, P. communis is hardy enough to endure at least 15° of frost in light soil, or sandy peat and leaf-soil. It is a good bog plant, but it is doubtful whether it would stand very severe winters in such conditions. But it is a rapid grower, and if a few pots of cuttings are made up in summer and wintered in a cold frame one may always be sure of a supply of roots. The pretty and neat manner in which this plant folds and closes its trifoliate leaves on a cold evening is worthy of close observation.

North Wales. J

DAFFODILS—AND YOUR DIARY

Make Notes from Time to Time of the Varieties that Please You, and Record for Future Reference the Best Methods of Grouping.

THERE are Daffodils in endless variety in flower at the present time. The bold Sir Watkin, the fragile looking and extremely beautiful Seagull, and the many flowered Grand Monarque are worthy of special note, as they flower regularly year after year, even in a stiff, heavy clay soil, and once again they are flowering to perfection. On light soils, Henry Irving, Emperor, Empress, Golden Spur and Barrii conspicuus are among the best for naturalising in grass. If there is one Narcissus which gives greater pleasure to the garden lover than any other, it is the old Campernelle Jonquil. It is not an exhibitor's flower, but it is a garden flower of the first water, flowering in wild profusion both in heavy and light soils. It is one of the sweetest of all the Narcissus family in fragrance, and once established in a thin woodland, its bright golden yellow flowers form one of the glories of an English garden in spring.

Unlike most other Narcissi, the Campernelle Jonquil has Rush-like foliage, and this, mingled with the flowers of the Jonquil, yields a delightful effect. It is a native of France, and like many another wilding, it is far more beautiful in the garden and woodland than many of the modern expensive varieties. In gardens where it is not grown it is one of those flowers to be noted for liberal planting in the woodland and wilder parts of the garden next August or September, for its flowers are of good colour and borne with great freedom. It is at this season when Daffodils are at their best that selections should be entered in the garden diary and observations made on the best methods of grouping the varieties to produce natural effects.

THE CAMPERNELLE JONQUIL SHOULD BE NOTED FOR LIBERAL PLANTING UNDER DECIDUOUS SHRUBS.

Bold groups and drifts with no attempt at regular outline should be aimed for in the woodland expanse and grassy slopes. Generally speaking, the varieties should be more or less kept to themselves in drifts. In no case should the Poet's Narcissi be mixed with the large yellow trumpets or small-cupped varieties. It will be observed that it is in fairly open woodland, where overhead shade is not too dense and the soil is not impoverished by the roots of trees, that Daffodils flourish and increase most satisfactorily.

It is common knowledge that Daffodils possess poisonous properties both in bulbs, foliage and flowers. A case of poisoning by Daffodil bulbs was reported recently. It was stated that as a result of accidentally using Daffodil bulbs instead of Onions in making soups and stews, the partakers had suffered great agony. There seems little excuse for anyone to mistake a Daffodil bulb for an Onion, but how often have poisonous plants been mistaken for edible ones with even fatal results, as, for example, in the case of the root of Monkshood, which has many times been taken for that of Horseradish?

The poisonous properties of Daffodil bulbs are not a recent discovery, having been traced to the alkaloid pseudo-narcissine, which was discovered in 1877. Apart from the poisonous properties of the bulbs, some people suffer from a skin irritation which is set up by handling the stems and leaves of Daffodils. A form of eczema is set up which is much akin to that of Primula poisoning, for which the well known Primula obconica is so frequently responsible. In the case of the Daffodils, the juice exuded by the freshly cut foliage and flower stems gets into one's hands—it is especially noticeable on the backs of the hands—and in an hour or two afterwards small whitish pimples arise, resembling those of Nettle stings. As a rule a chemist has no difficulty in preparing an ointment that will allay this form of irritation. The common Daffodil (Narcissus Pseudo-Narcissus), which, by the way, is a native of Great Britain, has been responsible for most cases of poisoning, which is not surprising, since it is a common pasture plant in some places; doubtless the Poet's Daffodils, Jonquils, Tazettas, Trumpets or any others would be as great offenders as the wild English Daffodil if they were as common.

Of Daffodils for the rock garden, Angel's Tears and the Hoop-Petticoat Daffodils are the two great favourites. It is never seen to greater advantage than when growing among choice alpines as it does in its native haunts in the Pyrenees. It is a diminutive species botanically known as Narcissus Bulbocodium. The bright yellow flowers, which are very showy in the April sun, bear some resemblance to the old time Hoop-Petticoat. The bulbs should be allowed to establish themselves in a light soil and growing position, as they do not all bloom the first year after planting. H. C.

The Right Judgment in Planting Daffodils

WHERE it is proposed to plant Daffodils in a large way, it is best to do it with some definite intention, rather than to sprinkle them about in haphazard fashion. Much damage as to good effect has been done in many places by quantities of bulbs being bought at sales and sent to the country place for the gardener to plant, without any special instructions. It is not the gardener's fault if the result is unworthy or even absurd, as in a known case where some thousands of Daffodils were planted round Oak trees in concentric rings, in an important region where garden ground joined on to park land.

What has been found to be the most effective way is to plant in a series of long shaped drifts, with a rather thicker nucleus. To set out the ground for planting a stick can be put at the end of each drift, or what is a still better guide, a garden line or thin rope laid down to define the edge. It is not meant that the bulbs should be in any sort of line against the rope, but only that the line of rope should confine the edge of the growth. The actual planting may be in groups of three or four bulbs anywhere within, with occasional single bulbs, as suggested by the drifts in the illustration on the page opposite.

The general run of the groups may best be arranged so that the more obvious points of view are at a more or less right angle to the general axis of the whole group. It is surprising how good the effect of such planting is, especially in the late afternoon when the yellowing sunlight, striking on the successive lines of bloom, intensifies the colour of the Daffodils and makes the whole into a most satisfactory picture of plant beauty.

Each large planting should be of one kind at a time, whether of yellow trumpets or of some good kind of Incomparabilis or hybrid. Where the soil is chalky, it will be well to make extensive plantings of the white Poeticus. It is a native of limestone alpine pastures and is never very happy in a light soil. G. J.

Spring Treatment of Perennial Lobelias.—These border subjects, having been wintered in a cold frame, may now be divided and potted or boxed up, to establish them before planting out. On warm soils planting may be done at

once. Cardinalis and splendens are two reliable doers, but the list offers a wide selection for individual tastes. Syphlitica makes a good show in September with tones of violet and purple. Lobatus prefers a light soil, well enriched with manure.

DAFFODILS IN WOODLAND

While we shall always grow the newer Daffodils in the garden beds and borders, when available in quantity and suitable positions present themselves they are much more beautiful planted as depicted in the illustration. These have been growing now for fifteen years undisturbed, and are still increasing in quantity. In growth of foliage and flowers they equal that made when the bulbs were planted in beds. The varieties include Emperor, Empress, Horsfieldii, Victoria, Sir Watkin, Barrii conspicuus, Frank Miles, Mrs. Langtry and Poeticus ornatus.

It is not easy to plant, or perhaps it would be more correct to say that considerable skill and judgment are necessary to plant Daffodils, and for that matter all bulbs, so that when in flower they have a natural rather than a formal appearance. One suggestion is to carry a basket of bulbs in one hand and with the other throw the bulbs about on the grass, planting where they fall, sometimes singly, in pairs and threes, or in large and small groups. Daffodil planting such as that depicted in the illustration is best done with a spade. August to October is the best season for planting.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Planting Evergreens.—April is a good month for the planting of such shrubs as Holly and Yew. See that the positions they are to occupy are prepared beforehand, so that no delay is experienced at planting time. Choose, if possible, a dull or even slightly showery day for the planting to be done, and thus reduce to a minimum the risk of the roots suffering from dryness. Should a dry spell follow planting, syringing must be daily practised to enable the plants to recuperate more quickly, and on light soils a mulching at once applied. The plants should have one good watering in to settle the soil properly round the roots.

The Kitchen Garden.

Carrots.—The main crop may now be sown in drills a foot or 15ins. apart. The stump-rooted varieties are to be preferred for heavy or strong soils, while the long tapering roots come better on light soils.

Potato planting may now be pushed on with as rapidly as opportunity offers. On heavy land a good dressing of leaf soil in each row before planting will be amply repaid.

Seakale.—Root cuttings of this indispensable winter vegetable should be planted now to make good crowns for forcing next winter. Plant in well prepared ground in rows 18ins. to 20ins. apart and about 15ins. between the roots.

Peas and Broad Beans.—Another good sowing must be made of these where the demand is large. Choose a good stiff piece of land if possible for the latter. Peas must at all times be grown in ground thoroughly well prepared if satisfactory results are to be expected.

French Beans.—On a warm south border the first small sowing may be risked. Sow in double rows about 6ins. apart, with 2ft. between the rows. The dwarf Bean prefers a light soil, to which has been added a liberal supply of manure some time previously.

The Hardy Fruit Garden.

Strawberries.—The hoe should be frequently used during the spring months on the Strawberry quarter. This not only keeps the ground free from weeds, but allows the sun and air to sweeten and warm the soil, which improves root action. A dressing of soot to the soil and lightly hoed in, will be beneficial, and act also as a slug deterent. As a change to the soot application, a sprinkling of some good fertilizer before hoeing will help to improve both quality and quantity of crop.

Plants Under Glass.

Nerines.—As growth approaches completion, gradually reduce supplies of water and withhold entirely when foliage has died down. This is a subject which flowers more satisfactorily if left undisturbed for some seasons, so unless increase of stock is required, frequent potting should be avoided. To complete the ripening of the bulbs, place the pots on a shelf in a greenhouse in a sunny position.

Ixoras.—Those that may need repotting should have the old balls of soil carefully reduced before placing them in their fresh pots. Use a compost of fibrous loam, peat and sand and pot moderately firm. Cuttings may be inserted now to furnish a later batch and provide useful decorative stuff. Heat and moisture are necessary for the successful cultivation of these plants.

Euphorbia jacquiniæflora.—Insert cuttings of this excellent winter subject as available, using a light sandy medium and plunging the pots in a propagating frame until cuttings are rooted.

Gloriosa superba.—Carefully pot roots of these with a well enriched compost and place pots in stove or other warm and moist structure, where spraying may be done to encourage a good growth.

Fruits Under Glass.

Peaches and Nectarines.—Routine Work.—Attend to disbudding and tying of the shoots as necessary, giving first consideration to those

DAFFODIL DRIFTS AT KEW. NOW IS THE TIME TO SEE THEM THERE IN FULL GLORY.

growths which are to be retained for another season. It is better to remove surplus shoots gradually and avoid a check. Maintain a sweet, growing atmosphere, and make the most use of sun heat where the crop is being hurried along. When stoning period is safely over in the early house, final thinning should be done at once, so that the whole of the tree's energy may be centred upon those fruits which are to be grown to completion.

H. TURNER
(Gardener to Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Potato Planting.—Complete the planting of early varieties and continue with second earlies and late sorts, as the sooner the Potato planting is completed the better. Choose good, reliable sorts. Anyone in doubt regarding varieties would do well to pay attention to L. M. Marshall's interesting article on "Potatoes that Maintain their Reputation" which appeared in THE GARDEN, issue of March 12. He mentions Ally as a possible rival to King George V. I might mention that with us the Ally was the most productive sort last season and proved excellent in quality; the only fault was a tendency to throw tubers of a larger size than is wanted in most kitchens.

Asparagus Beds.—Clean off any rough dressing, and lightly fork in a dusting of artificial manure. Dig the alleys, and square off the beds neatly.

Parsley.—Sow a good breadth in the open in shallow drills about a foot apart. Choose a good strain, and have satisfactory results from this indispensable herb. Thin the crop early, as Parsley is generally grown more thickly than is wise.

Salads.—Lettuce, Radishes and Mustard and Cress may now all be sown freely in the open.

Peas.—Make successional sowings of Marrowfats, using second early varieties. Duke of Albany, Sutton's Matchless Marrowfat, and Telephone are excellent sorts.

Leeks.—Make a good sowing of these in the open border for the main crop. We find the Scotch grown Musselburgh Leek one of the most reliable.

Plants Under Glass.

Liliums.—Pots of these if plunged in leaf-mould or ashes should be examined regularly, and if showing growth should be removed to a cold frame, afterwards introducing them into gentle heat as may be required. If the pots were left with a view to top-dressing this should be done when the growth is about 9ins. long. Use good fibrous loam with a sprinkling of well rotted manure from an old Mushroom-bed.

Deutzias.—Where these have been subjected to early forcing they will now be over, so should be cut back and then encouraged to break freely. They may afterwards be transferred to a cool frame, guarding from frost until the wood ripens

Chrysanthemums.—The bulk of the winter-flowering sorts will now have been potted into 5in. pots and probably moved to the cold frame. Guard against attacks of aphis by giving a spray of weak insecticide occasionally. Keep mats ready in case of sharp frosts at night, and admit air freely during fine days.

Fruit Under Glass.

Late Vineries.—Late Vines will be well on the move now, so all superfluous shoots should be rubbed off without delay. Exercise extra care in ventilating, as sudden bursts of sunshine may scorch the tender growths of some varieties at this period.

Peaches.—Thin out the fruits of early crops when they are about the size of Nuts. Pots of Peaches or Nectarines that may have been lately transferred to the orchard-house will be blossoming freely and should still be assisted by hand fertilisation. The want of bees is much felt in our district, our busy little friends being completely wiped out in this area by the Isle of Wight scourge.

The Flower Garden.

Lawns.—Give lawns a sweep and roll well, in preparation for the lawn-mower. Edges may be pared to advantage now, as this makes the work of clipping a more simple matter for the rest of the season. Bare patches should be re-turfed or sown down; a little sifted soil scattered over will assist germination.

Forsythia Fortunei.—Prune this delightful subject immediately the plants go out of flower. Being grown mostly on walls, it requires thinning out occasionally, being careful to leave sufficient growths for next season's flowering. Do not tie in tightly, as the pendulous shoots ought to have a certain amount of freedom.

The Rose Garden.—Hybrid Perpetual Roses and all other hardy sorts should now be pruned, leaving the more tender varieties of Teas and Hybrid Teas to the last. Give a good dressing of well rotted manure or, if this be scarce, a dusting of good artificial manure, pointing it lightly in between the plants.

Dogwood and Golden Willows.—To get the finest effects from these during winter they must now be cut over, so that fine freshly grown wood may be produced. If neglected the colouring is dull and uninteresting. The finest of the Cornus, to my mind, is C. sibirica elegantissima variety This sort has beautiful silver variegated foliage during summer, while during winter and spring it equals any other for brightly coloured bark.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

HOW TO OVERCOME THE RAW LOOK OF A NEW WALL

BY THE EDITOR.

ALTHOUGH many suggestions have been made in recent issues of THE GARDEN, this subject is by no means exhausted. No one, for instance, has suggested a means of hiding a rough cast wall, and those who are faced with this problem may take a lesson from the illustration on this page. Here we see a Japanese Quince (Cydonia Maulei) trained against the wall of a cottage which is covered with a cement rough cast that does not allow nailing on. A square trellis (not diamonds) was made of some spare pieces of split Oak paling that not only answers well, but also is of good appearance. Just lately we have tried with excellent results a new invention for training wall shrubs, fruit trees and ramblers. It is known as Everyman's Wall Clip and consists of a nail of special hard steel with a clip of soft oval wire that is easily closed or opened. We recommend this for permanent work; the clip can be opened and used again and again, which is most useful in the case of ramblers that require cutting away at the end of the season.

A JAPANESE QUINCE ON A SQUARE TRELLIS THAT SUCCESSFULLY TOOK AWAY THE RAWNESS OF A NEW ROUGH CAST WALL.

Cratægus Pyracantha, usually known as Pyracantha or the Fiery Thorn, is more often grown against a wall than as a bush. When the bricks harmonise with the deep green foliage and glorious bunches of scarlet berries all is well, but this is not always the case. The white flower clusters are pretty in spring. It is a shrubby climber of great value.

For the South of England and sheltered corners, because of somewhat tender growth, include the Abelias, Adlumia cirrhosa, Akebia quinata, Aloysia citriodora (the Sweet Verbena or Lemon Plant), Bignonia or Tecoma radicans, Ceanothus azureus, Gloire de Versailles, and other varieties, the flowers of charming blue shades, Choisya ternata (the Mexican Orange-flower), hardier than many suppose, and should be more grown as a bush, Eccremocarpus scaber, Indigofera floribunda, Maurandia Barclayana and varieties and Solanum jasminoides and S. crispum. Passion Flowers may be included also, as in cold countries and climates they are far from happy.

Eccremocarpus scaber.—A beautiful perennial evergreen creeper, but unfortunately it is tender, having come to us from Chili. In warm, sheltered

positions, however, it is a success, and bears a wealth of bright orange and scarlet flowers. A dainty creeper for Southern Counties or warm spots in more northerly gardens. Sow the seed in gentle heat in March, and when the seedlings are strong enough plant them out, about the end of May being a good time. Cover over the roots

EVEN WHEN NO LONGER NEW A WALL MAY BENEFIT FROM PROPERLY CONTROLLED PLANTS.

with coal ashes during the winter, then if frost cuts down the stems new growth will be made when warmer weather comes again.

Garrya elliptica is a Californian shrub usually planted against a wall, because it is seldom happy as a bush in the open garden, unless in the extreme South of England. It is evergreen, very dense and handsome, and in winter the beautiful Hazel-like catkins appear, which are produced in clusters, and vary from 3 inches to 1 foot in length. Throughout the winter these remain to add interest to the garden, and when cut for the house they vary the indoor decorations. The male parent is the most valuable.

Honeysuckles.—Beautiful in growth and flower are the fragrant Honeysuckles or Loniceras, which perfume the wayside hedge with their precious blossom. They are among the most cherished of climbing plants, and must be used freely in the garden, against walls, trellises, fences, arbours, or to garland banks. Good kinds are the Dutch and late Dutch Honeysuckles, forms of the Woodbine or common Honeysuckle (L. Periclymenum), the late variety blooming far into the autumn, hence its name. L. japonica or Halliana, L. flexuosa, and L. sempervirens and the variety minor are all charming. L. sempervirens is very distinct, having quite scarlet flowers and neat green leaves. It is one of the brightest of climbers, but must have a special place. A warm soil and position are essential. It is not happy elsewhere, but when it becomes established few climbers remain so long in beauty. It is neither rampant nor tall, but a Honeysuckle no one who can give the necessary soil and position should be without. L. Caprifolium and L. Xylosteum are native kinds. Honeysuckles are rather slow in growth, and the flowers are not produced in profusion until the plants have become quite established. One need do no more than thin out old decayed shoots. The winter-flowering L. fragrantissima and L. Standishii are very sweet in winter.

Wistaria.—The common Wistaria is W. sinensis, the lavender flower racemes hanging in profusion from the still leafless branches. A wall covered with Wistaria is a fair sight, as no climber is of more tender and beautiful colour. There are other kinds, one with white flowers named alba, but there is none better and freer than the type. W. frutescens and W. multijuga are hardy kinds of considerable merit, the last named being particularly fine. It may be used to adorn arbours, summer-houses, pergolas, trellises, walls, and the like, giving it a warm soil and sunny position.

Perennials for Cold Districts

(*Continued from page* 153)

Pæonias.—The Pæony is an excellent flower for the north, and even the splendid forms of the Chinese and Japanese herbaceous Pæony do well. The tree varieties require some shelter in spring.

Poppies.—The glorious perennial Poppies are magnificent and are quite hardy. Papaver orientale, in all its varieties of colour, is a noble thing for any northern garden.

Pentstemons.—Few of the perennial Pentstemons are to be altogether relied upon without frequent renewal by cuttings or seeds; yet they look very fine in the north, especially the hybrid Pentstemons now so popular. Newberry Gem is one of the hardiest Pentstemons to grow.

Phloxes.—These flourish bravely and thrive to perfection in the north, especially the hybrids. P. Laphami needs occasional propagation, and there are some cold gardens in which the forms of P. subulata, useful for edgings or rock gardens, cannot stand the winters.

Polemonium.—The varieties of P. cæruleum, Jacob's Ladder, thrive, and P. Richardsonii makes a nice addition to these in any border.

Potentillas.—There is scarcely a Potentilla in the market which will not grow and flower satisfactorily in the north. P. nitida, or formosa, is, however, an exception in colder districts and will not always live there. The hybrids are very fine indeed.

Primulas.—The field among the Primulas is so wide that it is impossible to name all which will grow and bloom in the north. Of the exotics it may be said that the popular P. japonica, P. denticulata, P. pulverulenta and a goodly number of others may be cultivated successfully. P. rosea may be singled out as doing well even very far north.

Pyrethrums. — The hybrid Pyrethrums are indispensable in all gardens and are most valuable for cutting.

Saxifrages and Sedums.—These popular plants give us a number of good border flowers, and practically every one offered in catalogues will flourish in most places in the north. The Megasea Saxifrages may be named as effective in foliage and flower, and Sedum spectabile is a good border Stonecrop hardy with us.

Scabiosa.—The charming S. caucasica is hardy further north than Edinburgh and is universally appreciated.

Sidalceas.—S. malvæflora (rose), S. Listeri (rose) and S. candida (white) are all hardy.

Solidago.—Coarse though they are, these Golden Rods are appreciated by some and are absolutely hardy in northern gardens.

Spiræas and Astilbes.—These may be classed together as affording a wonderful variety of effective flowers for the north.

Statices.—The hardiest and best of the Statices is S. latifolia, whose handsome foliage and light blue inflorescence are so fine in every way.

Thalictrums.—These Meadow Rues, as represented by T. aquilegifolium, T. glaucum and T. majus, may all be cultivated successfully.

Trilliums.—American Wood Lilies thrive in cool, moist places and look lovely when naturalised in some northern woods. T. grandiflorum and T. sessile californicum are the best for our gardens.

Trollius.—Practically all the Globe Flowers catalogued under various names will succeed in the North of England and Scotland.

Veronicas.—Many good plants are to be found among the hardy Veronicas for the north. V virginica, V. spicata, V. gentianoides and V incisa may all be mentioned as doing admirably

Other things, such as the Tradescantias, the Prunellas, Podophyllum Emodi and P peltatum, Linaria macedonica, Chelone glabra, Verbascum phœniceum and quite a host more, might be mentioned to show still further how many plants are suited for the gardens of the north. S. Arnott

Should Chefs or Growers Judge Garden Produce at Shows?

Is a Revision Necessary of the Royal Horticultural Society's Code of Rules?

THE letter signed by the President and Secretary of the Royal Horticultural Society appeared to be a recording of an official act, hence my article, yet later it seems to have been conveyed to the Fruit and Vegetable Committee of the Royal Horticultural Society that no definite steps had been taken. It really is a puzzle to me now, for why should the Society break away from the splendid Code of Rules for Judging, which was revised for the fifth time in 1914, and must have entailed considerable time, attention and trouble—a Code which I feel sure that every judge worthy of the name is quite content to abide by, owing to its clearness, practicability and carefully reasoned rulings. It is instructive to consider this Code at the present time, and a few only of the guides set out, anent the question of size, are worth quoting. For the purpose of judging by points Asparagus is allotted 8 points, and of these 3 are given for *size*; Broad and Long Pod Beans are granted 2 points out of 6 for *size*; Runner and Dwarf Kidney Beans 2 out of 7 for *length and form*; Cardoons 2 out of 6 for *size*; Cauliflowers, which it states should be of *medium size*, are given 2 points out of 8 for *size*; Celery, Endive and Kale all follow with good points for size; Leeks are noted as being desirable for "stems *long, thick*, even, etc.," and 4 out of 8 points are set aside for *length and form*; Lettuce 2 out of 6—size; Onions (mark ye, "Anne Amateur") 2 out of 8 for *size*; Parsnips 2 out of 6 for size, while length is discounted by the phrase "Very great length is no merit." Peas, and this is a very interesting point in view of the Royal Horticultural Society's letter, it states: "Pods large, well filled, of good deep green colour and with 'bloom,' free from rust. Peas of fair size, fresh, and of good colour, quality, flavour and appearance"; and actually the points, which are 8, are allotted 3 for condition and quality of Pea, 3 for *size* of pod and 2 for fulness of pod. So the story runs on, through Rhubarb, Salsify, Scorzonera, Seakale, Tomatoes and Vegetable Marrows, to say nothing of the others where lesser points are also awarded for size! Vegetable Marrows, it states, should be "Of medium size, 9ins. long by 3ins. in diameter, but in no case exceeding 1ft. in length" (shades of those poor slaughtered innocents which have been cut small enough to boil whole!).

In conclusion I would say that I have been literally snowed under with very complimentary letters, from all parts of the kingdom, congratulating me on taking the stand, which the Editor of THE GARDEN so kindly afforded me the facilities to do, on this big subject; and the letters are not all from gardeners, for some have come from market growers who have to cater for the masses, some from gardeners who have had to suffer from the peculiar ideas of chefs on the subject of vegetables, some from enthusiastic exhibitors of vegetables, and others again from interested amateur gardeners—and none from the hotels or clubs where the *eminents* do their deeds. Oh! those hotel and restaurant meals! Even at the very best of them is it really possible to get a good vegetable with one's dinner? I have been to many in my day and I do not recall a single instance where I have partaken of really interesting cooked vegetation; but, there, it really is not the chef's work, is it? for I presume he leaves their preparation to the scullion plus vegetable cook, while he dreams out the famous dishes, the *pieces de resistance*, the other, or vegetable dish, being beneath his dignity; wherefore, why ask him to judge the raw product?

Congratulations to Mr. W. Poupart for his careful, concise and clever contribution to the controversy. There are few men, if any, who are able to give better considered opinion on the subject, for Mr. Poupart is not only one of our finest judges of vegetables, but he combines with that qualification his expert knowledge of the public's taste, as conveyed by the demands of Covent Garden, of which great market he was one of our best suppliers of vegetables for food, and his sons are now carrying on the good work. E. BECKETT.

MIGHT I suggest that the whole of the controversy has arisen through some faulty judging which took place at Vincent Square last year, as appeared to some to be the case. It surely is a pity that an expert like Mr. Beckett should not have been considered, also the Vegetable Committee of which that gentleman is a member. The only things which I think might be considered to be monstrosities are Parsnips and Carrots. By all means let the grower aim at a Parsnip with a large top and a short tap root, and consider the stump-rooted Carrot to the long one, of which half may be wasted, but leave us an Onion which is capable of competing with those large imported ones from Spain and a Turnip which is larger than a decent-sized Radish. I wonder what our stores would have paid had they had the chance to obtain Mr. Beckett's collection at Vincent Square last year, or, for the matter of that, any of his exhibits. It will be a bad day for the gardener when the Royal Horticultural Society cannot judge exhibits without calling in the aid of a chef, whose chief art lies not so much in the cooking of the vegetable as in the decoration of it when placed on the table. I am sure the gentleman who eats the Turnips and such like which are grown in France on hotbeds does not know whether they are vegetables or salads, which are nothing until dressed, neither having much flavour. Compare these diminutive roots to a good white Snowball Turnip as large as a cricket ball and find the result. I still hope the Royal Horticultural Society will reconsider the decision and leave me to taste Messrs. Sutton's Exhibition Runner, 18 inches long, and I remain, still in support of Mr. E. Beckett's Pea, QUITE CONTENT.

I QUITE agree with all that Mr. E. Beckett says on this subject, page 116. I do not wish to say one word against chefs, and do not suppose they asked to be elected as judges of vegetables at any of our large shows. I cannot understand what has really influenced the Royal Horticultural Society's officials in deciding to request the services of chefs. I cannot believe that any of our excellent cultivators of excellent vegetables influenced them in this direction. It is a decidedly retrograde act, but let us hope that it will never be carried out to the letter. My experience of chefs is that they are quite satisfied with the tender and well grown vegetables supplied to them by competent gardeners; and competent cultivators are the most competent judges. They know, from the first glance, whether the specimens before them have been grown without check and are, consequently, sound and of high general merit. To grow vegetables of such quality requires much skill, hard work and watchfulness. The stringy, hard and undersized specimens are the result of lack of skill and of neglect—they are wasteful and quite unprofitable. It needs the continued skill of our best cultivators to keep vegetables at their present high standard and to improve them where possible; this kind of cultivation should be encouraged and not thwarted. G. GARNER.

MAY I begin by saying I endorse Mr. Chapman's remarks in every particular and not least in his tribute to Mr. Beckett as a grower and shower of "exhibition" vegetables? Mr. Beckett certainly is *not* an offender in the matter of overlarge size, but he is rather "the *exception*" than "the rule" in this respect, so far as I have seen. Next, in reading Mr. Poupart's very interesting point of view, "quality and quantity" does not puzzle me. As a private grower, for the needs of my own household, I have to consider, for example, that the finest flavoured Pea may not yield so full a crop as a less excellent one, and veto the former on that account. I fully agree with Mr. Poupart that at "big dinners" one does not get the choicest vegetables, but at "little dinners" one *does*, or should, do so. As a "middle-class" housewife, I agree with Mr. Poupart that "the great bulk of vegetables are eaten by the middle and lower classes, and that many gardeners' wives (and private cooks) "could show chefs how to cook them."

Now—I enter on delicate ground—I wish to point out, with all politeness, that Mr. Beckett represents an extremely small and limited class—to wit, the gardeners of wealthy employers—who indulge in the sport of growing and showing vegetables at the said employer's expense; and garden produce, as shown by them, does not come into "practical politics" for "the middle and lower classes." Again, Mr. Poupart says, and he is an undisputed authority on this point, "large well grown vegetables realise most money (and I cannot imagine the buyers are all fools)." Certainly not; but his buyers are, I take it, chiefly *retailers*, and the general public (misled partly by "show" vegetables) suppose the largest vegetables to be the best and, anyway, that they are "getting the most for their money," and are not judges of "*table quality*." To them, a Cabbage is just a Cabbage, "it is nothing more." They probably know nothing of *varieties* of Cabbages nor other vegetables, nor of differences in flavour. Mr. Poupart "can only think of Cauliflowers as a vegetable preferred small," whereas I, a "woman at home," in garden, kitchen and dining-room, for over thirty years the housekeeping daughter and "family fag," grew vegetables, gathered them, cooked them, and sat at the dining-table and saw them served and eaten, so that I gained an "all round" experience such as few have had, and I can say that practically *all* vegetables are preferred small, young and tender.

Another very important point is that small vegetables require less time and *fuel* to cook—a matter invariably ignored by gardeners. Small-sized vegetables are also more convenient for the varying daily needs of a private household, and they require smaller cooking utensils. And here, as a woman, I enter a plea for consideration, that the lifting and carrying of large and heavy sauce-pans imposes a severe strain on the backs and

arms of young girls and of women in general. This is a point which has doubtless never been thought of by gardeners and show judges.

So, in conclusion, to sum up, I think that gardeners, growers, chefs, cooks and consumers should all have their representatives among the judges; but in any case the gardeners should *not* have the predominating voice, for *they* in the past have proved themselves incompetent as judges. Hence the present revolt against their too-long endured tyranny. Anne Amateur.

Magnolia Soulangeana

Magnolias have been aptly described as aristocrats among spring-flowering trees and shrubs. Certainly in beauty of flower they have few rivals. Conspicuous among them is M. Soulangeana, probably the most popular of all Magnolias and now widely grown in gardens. It must be a century now since M. conspicua, the Chinese Yulan, was crossed

AN ARISTOCRAT AMONG SPRING FLOWERING TREES.

with pollen of another Chinese species M. obovata in the garden of M. Soulange-Bodin at Fromont, near Paris, for the resulting hybrid, M. Soulangeana, is recorded as first flowering in 1826. Such a valuable hybrid has not unnaturally been followed by others, the result of the same cross, but varying considerably in colour. Some of the most distinct have been given varietal names, and include Alexandrina, Hammondii, Norbertii, speciosa, spectabilis and superba. Apparently the Japanese also made the same cross, for among the many valuable introductions by the late Mr. John Gould Veitch from Japan in 1861 was Magnolia nigra, the outer petals of which are a deep rich purple colour, but obviously the same parentage. Though not yet so popular as the subject of this note, M. Lennei (M. conspicua × M. obovata var. purpurea) has larger, bolder and darker rose-purple blooms than typical M. Soulangeana. Also, as it flowers two or three weeks later, M. Lennei often escapes the frosts which too often damage M. Soulangeana in April.

THE ASPARAGUS SEASON

The Right Treatment of the Beds and How to Cut the Grass

THE time has again come round when our thoughts are directed towards the Asparagus beds, not, certainly, because of their attractive appearance now or at any time, excepting the time when we are anxiously looking out for those little brown heads to peep from under the soil next month. It is, I fear, a cupboard, or selfish sort of love which even this, the prince among vegetables, exacts from us, and, if the truth must be confessed, it is more or less the same in the case of most vegetables. At the present time the beds will appear more or less weather worn and neglected, and the time has come to attend to their wants in the way of helping them to give us of their best during the next few months. The first thing we have to do is to carefully fork over the beds, say, to the depth of 2ins., just to break up the hard surface crust of the soil. In doing this we must be careful to avoid digging even to this depth where the crown of the root stock is—this position is easily told by the few stumpy old grass stalks remaining. While digging is going on bear in mind to pluck up all weeds there may be on the bed and cast into the alley or path between the beds. The next thing we have to do is to rake off any cloddy dried manure or other material left on the surface, leaving the bed with a clean, smooth surface to receive whatever manure dressing we may think well to apply. Common salt is the manure most frequently applied. (This has been the case ever since I can remember—sixty years ago. The reason being, I suppose, that the plant was born on the seashore. At any rate, it has not forgotten its predilection for the sea, for it is still found wild on the sandbanks of many of our coasts.) Nitrate of soda is, I think, preferable. Apply both at the rate of half a pint to the square yard super, and see to it that both are crushed small before being applied. A better application than either, I think, is the following: Superphosphate 2½lb., nitrate of soda 3 lb., Kainit 4lb. Mix the whole well together and apply at the end of this month at the rate of this quantity to 1 rod of beds, scattering the same evenly over the surface. The salt and nitrate to be applied at the same time and in the same way.

The next step we have to take is to dig the alley between the beds. This must be done with care, as the alleys (if the beds are well established) will be filled with the large succulent roots of the plants. It will be found sufficient to turn the soil over a fair depth, and while doing so to throw enough of the finest of such soil over each bed to cover the same (and the manure) to a depth of 2ins. The beds will now appear in decent order and remain so until grass appears. It is important that such work as the above should be carried out in dry, fine weather if possible.

Cutting the Asparagus.—To beginners and amateurs who may know but little about the growth of this plant this is the part connected with its growth which worries them more than anything else. I was about to try to describe the crown or centre of each root stock from which the grass emerges. Instead of doing this I will ask my readers, on a dry day, to clear away the soil with a trowel and the hand from over the crown of one of the plants and so find out for themselves its construction; it will do it no harm. It will be found to be a large cluster of plump buds closely nestled together in a group. Each of these buds will in good time develop and grow into a live Asparagus. The reason that I am careful to explain this matter so fully is because my readers will understand how easy it is to destroy such buds if the cutting of the grass is not carried out with knowledge and understanding. The grass should never be cut so low as to expose the buds to injury. A proper Asparagus knife should always be used. Always cut upwards and never thrust the knife downwards. As regards the cutting of the Asparagus, even experienced growers differ as to the best methods of procedure. At the Royal kitchen gardens at Frogmore the old kitchen garden foreman, Mr. Charles Mase, who had had charge of the growth of this vegetable for upwards of fifty years, adopted the system of cutting every blade of grass that grew, large and small, until there were abundance of green Peas to be had. This would be about June 16th; not a blade would he cut after that unless ordered specially to do so, believing firmly, as he did, that cutting after this date was inimical to the success of the plants the following year, by reducing the number and strength of the grass which grew afterwards, so reducing the number of buds in the crowns for the production of a crop the following year. Each grass that is permitted to grow to its full strength, to ripen, and to die, forms a bud and produces a head of grass the following year. This system is easily understood. It prevents the exhaustion of the plants by over cutting; it is economical, as every blade of grass cut is thus made use of; even the smallest were bunched for the flavouring of soups, &c. These otherwise would have been worse than useless, being mostly self-sown seedlings, they would serve only to choke up the growth of grass from established roots. O. T.

CORRESPONDENCE

THE CONTINUOUS FLOWERING OF THE CAMPERNELLE JONQUIL.

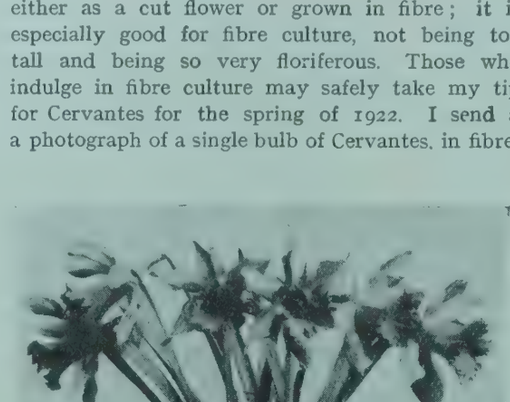
AN unusual instance of long-continued flowering of the Campernelle Jonquil has occurred with me. A clump of about fifty bulbs began to flower on Christmas Day last, and they have kept on continuously until the date on which I write (March 31), when they are as gay as at any time since they started blooming, and they are still throwing up new flower-spikes. I am wondering if any of your readers have had an experience similar to mine and what the reason for it is. The bulbs were planted in very sandy soil with a north-west aspect in September, 1919, and they have not been disturbed since. I have not hitherto heard that this Jonquil was remarkable for long flowering. During the last thirty years I have grown this bulb in large quantities, but never have I known it last in flower longer than about a month. The warm, dry winter may be the explanation.—B., *Weybridge.*

A CHOICE VERONICA FOR THE ROCK GARDEN.

AMONG choice and not too rampant Veronicas suitable for the rock garden Veronica Edinensis is valuable on account of its pretty foliage and pleasing habit. When given a position 2ft. or 3ft. above the level of the path it is seen to advantage, and although it is of slow growth, it will in time make a spreading bush from 1ft. to 18ins. in height. The flowers are white and produced during the summer months, but it cannot be recommended for its free blooming qualities, for I have never seen a plant with many flowers open at one time. I believe it originated in the gardens of the late Mr. Robert Lindsay of Kaimes Lodge, Midlothian, at one time curator of the Botanic Gardens, Edinburgh. It somewhat resembles V. cupressoides in general habit, and it is probably a hybrid between that species and V. pimelioides. V. Edinensis is quite hardy and will succeed in any position except continual shade. For the rock garden it is an ideal plant, and perhaps two or three clumps would not be out of place.—B.

SEVEN BLOOMS FROM A SINGLE BULB.

I VENTURE to say that Narcissus Cervantes is not nearly so well known as it deserves to be. I believe it was raised by the late William Naylor Hartland; at any rate he distributed it, and wrote and talked about it a good deal. He sent some bulbs to my firm for trial some ten years ago, but we did not then consider it to be superior to Princeps. This may, perhaps, have been a matter of the selection of bulbs, for I have known extra fine mother bulbs of Princeps to produce from three to five flowers per bulb, while poor bulbs did not average one flower per bulb! Cervantes was highly recommended to me by a Dutch grower last year, so I gave it a trial. Some two or three boxes were put in for gentle forcing, and the results fully bore out the grower's report. The number of blooms produced was truly wonderful, the whole of the box bristled with buds, and on carefully counting them over we came to the conclusion that they averaged three flowers per bulb, as they ran from two to six, and in one case seven! When in full bloom the flowers almost hid the foliage. The flower of Cervantes is not at all first class—in fact, in shape and texture it is very like Princeps—but the colouring is distinct, for whereas Princeps is a bicolor, Cervantes is only two shades of yellow. Still, if not a show flower it is very light and graceful for house decoration, used either as a cut flower or grown in fibre; it is especially good for fibre culture, not being too tall and being so very floriferous. Those who indulge in fibre culture may safely take my tip for Cervantes for the spring of 1922. I send a a photograph of a single bulb of Cervantes, in fibre



IS THERE ANY DAFFODIL OTHER THAN CERVANTES THAT COULD CARRY SO MANY FLOWERS FROM A SINGLE BULB?

grown by an amateur. Another grower has forty-nine flowers on twelve bulbs.—J. DUNCAN PEARSON, *Lowdham, Notts.*

IDENTITY AND PROPERTIES OF POISON IVY.

I VENTURE to send you some extracts from an American textbook of pharmacology bearing upon the identity and properties of the forms of Rhus Toxicodendron, a subject upon which there appeared to be some confusion in the communication to your issue of the March 5, and upon which there seems no further note in any number published since. Extract from Stillé and Maisch's "National Dispensatory," Philadelphia:

"Rhus Toxicodendron. Origin: The poison oak is indigenous to Canada and the greater portion of the United States westward to the Rocky Mountains. It attains a height of about three feet and has an erect stem, or, if growing in close proximity to trees or walls, it becomes a climber, supporting itself by adventitious roots and ascends to the height of thirty or forty feet. This climbing shrub, Rhus rudicans, *Linn*, is now regarded merely as a variety of the erect form, but is popularly distinguished as *poison* ivy. Both forms when wounded emit a milky juice which turns black on exposure; they have small greenish pentamerous flowers in axillary paniculate racemes and produce small dry drupaceous fruits of a whitish colour. . . . The plant has been introduced into Europe and has become naturalized there. . . . The leaves are on petioles four or five inches long and are trifoliate with the terminal leaflet prominently stalked, ovate or oval, acuminate with a wedge-shaped base. The later leaflets are sessile, four or five inches long, pointed rounded at the base and obliquely ovate in shap . . . The poisonous *toxicodendric* acid is volatile has a strongly acid reaction and neutralizes base completely. Applied to the skin either in solutio or state of vapour, the acid produces vesicula eruption. . . . On man it acts externally as a irritant, some persons being much more susceptibl to its influence than others. The eczematou inflammation of the skin is characterised b violent itching, redness and swelling, followe by heat, pain, fever and vesication, which upon th face and genitals particularly may be attende with extreme tumefaction Usually the mor distant irritation is due to the discharge from th primary lesion being conveyed elsewhere by th hands . . . Various remedies have been em ployed to palliate the inflammation caused by th poison oak. One of the best is alum-cord, appro priate to all stages of the process. Before th blisters have formed or discharged their contents lead water is useful, but perhaps a strong solution of carbonate of sodium is still more so. Rhus vevenata (Rhus vernix, *Linn*) grows in swampy grounds in Canada and United States and is known as poison sumach, poison dogwood and poison elder. It is a shrub twelve to eighteen feet high, has very glabrous leaves with about eleven oval or ovate-oblong abruptly pointed and entire leaflets. The fruit is yellowish. All the species are poisonous and their properties probably due to the same principle."

Phillips' milk of magnesia is an American preparation, but obtainable in this country. It is not superior in efficacy to lead lotion and alkalies. Mr. E. M. Holmes simply recommends moistening a crystal of washing soda and rubbing it over the infected part. Later researches throw doubt upon the volatility of the active principle. Though the scandent form of Rhus Toxicodendron may bear a superficial resemblance to the Ampelopsis genus, there is, of course, no botanical affinity between them.—J. E. SHAW.

CUT FLOWERS AND THEIR ARRANGEMENT.

IN THE GARDEN of October 6, 1894, a very interesting article appeared, from the pen of Lady Constance Lytton, entitled "The Japanese Art of Arranging Cut Flowers." The writer there stated that her object was to spread the teaching conveyed in Mr. J. Conder's book on "The Flowers of Japan and the Art of Floral Arrangement." She went on to show how, with but little modification and relaxation from the stricter Japanese rules, this artistic science could be adapted to English flowers and homes. She pointed out that three fundamental principles underlay this Japanese art. "(1) Not alone the flowers, but the leaves, stems and branches must be considered as forming the most important part of the arrangement. (2) The branches must not be allowed to lean against the edge of the vase or vessel containing them, but must be supported from some base within it. (3) The flowers used should be those blossoming in their proper season and the design suited to its particular position in the room. Further, it would be contrary to the fundamental laws of the art to try and make a stiff upward-growing plant hang downwards, or to try and erect a flower with a limp stem or one which naturally hangs downwards." In conclusion, she writes; "The wonderful beauty of proportion and balance, the choiceness of selection, the effect of growth and vitality, of dignity and grace, with which the whole of this art is penetrated, are not to be expressed in any doctrinal terms." "*The tender solicitude which it exacts for the habits and*

haracteristics, tastes and welfare of each plant ndows the least thing utilised by this art with lmost a personality. So strong is the fascination f the Japanese principle, that once it is adopted it vill probably assert its authority even among a unch of Primroses and Violets." More than a quarter of a century has passed away since these words were first read in THE GARDEN, and I believe that the teaching there given, which Lady Lytton desired to popularise, has spread to a large extent. Fasteners are now sold at Liberty's and other shops needful for making an arrangement of flowering plants in this Japanese way. One of the best is simply a ribbon of sheet lead, which can be bent to suit stems of any size and hold them in any desired position. When arranged in a tall vase the height of the flowers is generally about one and a half times that of the vase. If arranged in a broad shallow vessel, the height of the composition should be about one and a half times the breadth of the receptacle. The weight of the leaden coils will balance any branches of flowering plants of such lengths. If the fastener should be visible above the water line, it may be covered with moss or light leafage. There is hardly a flower, shrub or tree which is not adaptable to this style of arrangement and it economises the number of flowers used. There are some hard-wooded plants, such as the Rhododendron, Azalea, Camellia, Magnolia and Gardenia which are injured if cut below the actual flower stalks, and there are others that must be cut sparingly by those who have any "tender solicitude for the welfare of their plants." In this case quite a small branch or two to show the natural growth of the plant must suffice, and I think, therefore, it would be quite permissible to let some short-cut blossoms float, as though they had fallen into the water. The Wistaria, the Rhododendron and Azalea cast their blossoms entire and unbroken, the Cydonia or Pyrus, the Almond and Plum and Cherry frequently do the same. Such fallen blossoms and petals are not swept up in many a Japanese garden as they usually are in an English one, but are allowed to lie where they carry the colour scheme down to the ground. In an arrangement of cut flowers, such as Roses, what could be more beautiful than to see the branches springing from a carpet of soft green moss, with some fallen petals strewn upon it and even, perhaps, trespassing beyond the confines of the containing vessel. This is a very different thing to the haphazard severing of blossoms, all and sundry, from their supporting stems. I do not think it possible for anyone to read Lady Constance Lytton's article on this method of arranging flowers without being profoundly and permanently influenced. After reading it I believe that more consideration will be given to the effect of the plant as a whole, to the natural poise of the blossom on its stem and surrounded by its proper leaves and branches, thus revealing a true love for the plant, and not only for its brilliant flower. The article is printed as an Appendix to Mrs. Earle's "Pot Pourri from a Surrey Garden."—HERTFORDIENSIS.

ASSISTING BACKWARD POTATOES TO SPROUT.

THREE years ago I had a similar experience with Potato Witch Hill to that mentioned by "Pangbourne" on page 99. I got the Potatoes in the autumn, put them in a box and placed them where they got all the available light, in a temperature averaging about 55°. They made very slow progress in sprouting, were planted on April 25, and the haulm was mostly yellow by July 9. The crop was very poor, and more than one-fourth of the old tubers were glassy and as firm as when planted. Since then I found that Potatoes left in the bags under conditions similar to the above soon commenced to sprout, and I conceived the idea that it was a question of moisture. Since then I boxed quite a number of varieties in the usual way in ordinary boxes, and stood the latter above one another so that they formed close lids to each other. The sprouts were 1in. long in the course of a fortnight, and I then planted them without waiting to green them. This could be done by a few days' exposure to light, but I do not think it necessary. The principal thing is not to get the sprouts too long before planting the tubers. Last year I doubled my weight of crop compared with what it was two years previous to that. This applied to the average of seven varieties.—HORTULANUS.

THE TRUE FORM OF LAVATERA OLBIA.

MISS JEKYLL'S sketch of her August garden (issue March 26, page 149) in pink and purple is most interesting and worthy of a trial where room can be found in the garden, and I am grateful for the suggested treatment. It is the setting of grey foliage which appeals to me, for in many herbaceous borders plants of this colouring are often dotted here and there without any other thought than adding just another variety to the collection of plants to be grown. I note Miss Jekyll was disappointed with Lavatera Olbia last year, and wonder if she had a form of arborea. Until this year I was unaware of any seed of Olbia being offered by seedsmen, for I have never seen it in fruit, although I have grown it for the last ten years. I remember my friend, Mr. R. Prichard, of West Moors, being surprised to find a stray seedling near to an old bush of Olbia in his garden, but this did not prove to be so good as the parent. I have always propagated this Lavatera by cuttings taken in autumn and dibbled in sandy soil under a bell glass. After they have taken root in early spring they are potted into 60's and kept in a frame until end of April, when they can be planted in the border where they are to remain. During the summer they make rapid growth, forming bushes about 3ft. and flowering profusely. —F. J. LANSDELL, *Bournemouth.*

PLANTING PENTSTEMONS.

THESE excellent plants give the best results from present planting, as they then get well established before the warm weather arrives, and this greatly lessens the labour as regards watering, which is somewhat considerable on light soils. The most effective way of using them is to mass them in beds, or they may be grouped boldly on the herbaceous border or in front of shrubberies where they would get their full share of sun. When thus used they are formidable rivals to the Antirrhinum, although they do not possess such a wide range of colour.

NOW IS THE TIME TO PLANT PENTSTEMONS. THEY ARE MOST EFFECTIVE WHEN MASSED IN BORDERS.

The "Gem" class are, I think, deservedly favourites for general purposes, for they are not only most free flowering, but they possess a distinct gracefulness, which I think is lacking in the larger flowered or florists' type. The plant will thrive easily in any well cultivated garden soil, and on light soils will repay a good mulching of spent Mushroom manure and decayed leaf-soil.

During hot spells a few good waterings ought to be given, and three or four times during the season previous to a watering give a good sprinkling of bone meal. The flowering period may be considerably lengthened, if desired, by raising plants from seed early in the year to follow those propagated from cuttings the previous autumn.—H. T., *Albury Park Garden Guildford.*

KNOW YOUR SOIL

Working out a Scheme for Soil Improvement

IT is an interesting fact that even at the present time a large percentage of gardeners fail to appreciate the advantage of a knowledge of soils and soil conditions. Given the general classification, sandy soils, sandy loams, good loams, and heavy clays, they are satisfied; they do not realise, many of them, that a little extra study may mean a considerable saving in fertiliser bill, quite apart from any added interest there may be. Nowadays, in fact, a garden can only be called truly successful when it is economically in a fairly sound condition. With expenses all round so high, it is essential to get the best out of every garden; that best can only be obtained by a proper use of manures and fertilisers.

A brief consideration of the physical and chemical properties of any soil will be very valuable as an indication of the best method of treatment. Take, for example, a sandy soil, such as must be familiar to all Surrey and Hampshire gardeners. Here the soil is largely made up of comparatively coarse particles, chiefly sand, or "silica," an insoluble substance of no nutritive value to the plant. Such soils from this very mode of formation are generally poor in plant nutrients. Both potash and phosphates are probably present in very small quantities; nitrates are quickly washed out by rains and lime, also, tends to vanish in the drainage water.

On the physical side, the properties of a sandy soil are largely explicable by the phenomenon of capillarity. When two surfaces are placed close together with their bases in water the latter will rise up between them, and the height to which it rises will be inversely proportional to the distance between the plates. That is to say, the narrower the channel the higher the water will rise. In a sandy soil, therefore, where the spaces between the particles are comparatively large, allowing free movement of rain down into the soil, water cannot be raised up to the surface by capillarity from any great depth. For this reason, if the subsoil is fairly permeable, the reserve of water in the soil may be too far down to enable the upper layers to remain moist during a dry spell. From considerations such as these, it may be inferred that on the one hand a sandy soil drains readily in the spring, can be cultivated early, and as it warms up rapidly is especially useful for early crops. On the other hand, it may be expected to suffer very readily from drought during the summer.

Having noted these salient features it is now comparatively easy to work out a scheme for the improvement of such a soil. In the first place, lime in some form or another will be required, preference being given to the slower-acting ground limestone in order not to destroy rapidly such organic matter as may be present. Apart from its many other good qualities, lime is the only satisfactory method of checking the ravages of "finger and toe" disease on these soils. Secondly, organic matter, farmyard manure, leaf-mould, or a green crop will be required to make the soil more retentive of moisture and more "binding." Leguminous crops, such as Peas, and especially Clovers, are very valuable, and they, too, will require a sufficiency of lime in order to grow satisfactorily. Guanos and other organic forms of nitrogen may be applied, while both phosphates and potash must be added in some suitable form. Basic slag is valuable as a source of phosphate owing to its containing a percentage of lime, but for immediate use phosphates should be given in a form such as steamed bone-flour, which is free from acidity.

A GARDENER.

A New Chinese Shrub with Pendent Flowers

THERE is a shrub having the misfortune to bear the name of Stachyurus chinensis which is at the present time the centre of great interest and admiration at Kew. Never before has it borne so many flowers, which hang like catkins around each bush.

S. chinensis is a new species or variety of Stachyurus noted by several Chinese collectors and introduced by Mr. E. H. Wilson, who sent home seeds. These have germinated well, and the plants are growing and flowering freely. In a bed of seedlings the habit of growth varies, some of the plants being quite upright, while in others the shoots are spreading. A curious feature of one plant is that when the racemes are developing they are upright, but before the flowers open they assume the usual pendent habit. Whether the Chinese Stachyurus is sufficiently distinct from the Japanese S. præcox to be given specific rank we must leave the botanists to decide. Both plants are such delightful and uncommon shrubs—they are yet so rare in gardens—that all the plants it is possible to secure should be grown. The Stachyuruses belong to the Natural Order Ternstrœmiaceæ, and are deciduous shrubs about 3ft. in height. The pale yellow flowers are borne in pendent, catkin-like inflorescences towards the ends of the shoots of the previous season's growth. The buds form in the axils of the leaves in autumn, and during winter they may be noticed developing gradually. The flowers open during February and March, in advance of the leaves. In describing S. chinensis as distinct from S. præcox, botanists denote broader and crenately serrate leaves abruptly contracted into a long acumen, a difference in the colour of the young wood, a longer style and smaller fruits. The Stachyuruses require a warm, sheltered position from the east, and a light, well drained soil, consisting of sandy loam and peat or leaf-mould.

THE YELLOW FLOWERS OF THIS RARE SHRUB (STACHYURUS CHINENSIS) ASSUME A PENDENT HABIT AND OPEN IN ADVANCE OF THE LEAVES.

IRON AS SUPPORTS FOR ROSES

A FEW days ago an amateur friend, because of the coldness of the metal, replaced the iron stakes which supported the standard Roses in his garden with wooden ones. The fluctuations of temperature of iron are, of course, well known, and in a severe winter, when even a trifling depression of temperature beyond the normal condition of things may have serious consequences, contact with an iron support may form the last straw which turns the balance against the Rose, especially in the case of delicate varieties. The only point in favour of iron supports is their durability, but in our moist climate iron soon rusts away unless galvanised or painted annually. Galvanising iron does not raise its temperature, and in many cases complaints have been made of the injury done by galvanised wire to fruit trees, though whether the low temperature is the cause of the mischief or the bright coating upon the wire has not yet been fully cleared up. Whoever uses iron supports for anything to grow upon should at least keep them well painted, and in tying Roses to the supports cross the two ends of the string, so that the plant may not come into contact with the metal. I have frequently noticed when tying Peaches and other trees and plants to galvanised wires that when the matting is passed round the wire first and the tie loosely made so that the bark is not pressed against the wire, no damage is done. Hollow bars or tubes are in every way better than solid bars of metal, and doubtless in the future metal tubes will come largely into use, for it is not likely, unless there should be a wider difference between the cost of iron and wood than there is at present, that the wood will reassert its old supremacy.

ROSA.

The Coning of Pinus Armandi

Seeds of this Chinese Pine were first sent to France by Père Farges in 1895, while in 1897 Mr. Augustine Henry sent seeds to Kew from Yunnan, W. China. It was from a tree raised from the latter seeds that the spray was cut which supplied the material for the accompanying illustration. The trees are now about 25 feet high. Cones were first produced in 1909, but these did not contain fertile seeds. Each year now, however, good seeds are produced which germinate readily.

Until cones are produced, Armand's Pine growing in the pleasure grounds is not distinguishable from the Bhotan Pine, Pinus excelsa. The cones, however, are very different, the subject of this note having thick, weighty cones, 3 inches wide, and 6 inches to 8 inches long, slightly tapering. In the Bhotan Pine the cones are long and

MATURE AND YOUNG CONES OF ARMAND'S PINE (PINUS ARMANDI).

cylindrical up to some 10 inches long, and about 1½ inches wide, usually curved when mature. In the illustration the young cones and the second year (mature) cones are very well shown. P. Armandi is one of the five-leaved section. A. O.

Manuring Strawberry Beds

If Strawberry beds have not been dug or forked lightly between the rows it should be attended to as early in April as possible. Cut and clear away runners and weeds. Hoeing is often preferable to digging between the rows, as it causes less injury to the Strawberry rootlets; but when the bed or plantation is rather full of surface weeds, the spade or digging fork must necessarily be used.

The beds should be made quite firm; if the soil is loose it may be firmed by treading. If well-rotted farmyard manure is available, a good mulch can be spread between the rows and trampled down in a compact and even layer. If no farm manure can be applied, give a dressing of soot and lime at the rate of about 4ozs. of each per square yard, supplemented with 1oz. of steamed bone flour and 1oz. of muriate or sulphate of potash. If separately applied, and stirred into the soil, 1½ozs. of superphosphate may be substituted for the bone flour. About half an ounce of sulphate of ammonia, or three-quarters of an ounce of nitrate of soda, per square yard should be hoed in a few weeks later. Sulphate should always be hoed in, and it should be spread early in the season. Nitrate can be applied several weeks later. It is quicker in action than sulphate, but 25 per cent. less powerful, except in a very dry season.

Balthangie, Turriff, Aberdeen. John Wight.

Two Crops of Melons in One House

Where a fair amount of artificial heat can be commanded during the spring months, with a little in the summer, when required two crops of Melons can be easily matured in the same structure. The seeds should be sown singly in small pots filled with loam and sand, first warmed, and then placed in a propagating-frame for preference, where there is some bottom-heat. If the pots are plunged to their rims, the heat of the soil in them will be more uniform.

Directly the seedlings appear, be careful about the ventilation of the frame, as excessive atmospheric moisture may cause the loss of the seedlings. Wipe the glass dry twice each day, and admit a little air night and day. When the first rough leaf shows, lift the seedlings from the plunging material and admit more air. The soil should not be really wet at any stage. If water is needed, partly immerse the pots in a vessel of tepid water.

In the meantime form the bed for the reception of the plants. A hotbed of leaves and litter should be made up if there is no means of providing bottom-heat from hot-water pipes. Put on a ridge of good fibrous loam 9 inches deep, and cover the remaining part of the hotbed with soil 6 inches deep.

When the compost is warm, plant the young Melons 14 inches apart and train them as cordons, securing two fruits on each plant, three on some. As the roots appear on the surface of the bed, top-dress with more loam and rotted manure, always made firm.

A day temperature of 70° from artificial heat should be maintained, and 65° at night. From sun-heat a few degrees more will be beneficial in the daytime. Keep a fairly moist atmosphere, and if any syringing is done, the foliage must be dry by sunset. Feeding will not be necessary before the stage of growth when the fruits are set and beginning to swell freely.

The first crop will take about sixteen weeks to mature from the time the young plants form the first rough leaves. The writer has taken ninety good fruits from a span-roofed house in which it was difficult to obtain forty fruits from plants grown on the extension system, planted 3 feet apart. The cordon system is more up to date, and amateurs will find it a comparatively easy matter to grow fine crops of Melons if they adopt it. G. G.

A New Gardening Dictionary

In the preface to "Black's Gardening Dictionary"* just to hand it is claimed that "it has an adequate article on every matter of interest to the modern gardener," and that "it should become the standard work." Its distinguished list of contributors may do much to justify these very ambitious claims. The printing of the book is large and clear; the illustrations, though few in number, are a useful addition to the volume, and in these days of badly bound books, it is somewhat of a relief to handle one in a really strong, well fixed, cloth back. As to the arrangement of the matter there appear to be some inconsistencies which should certainly be remedied in any future edition. Take the Apple article as an example. The cultivation and best varieties are briefly dealt with, and an article on Apple diseases follows. But instead of an article on Apple pests succeeding that on Apple diseases, we are referred to the article on insect pests for all Apple pests. It would certainly have been better to have put everything concerning Apples under Apple, instead of cross referencing to other articles. Bearing in mind the fact that certain diseases and pests attack many flowers and vegetables, and that the Editor of this work clearly does not want to give information two or three times over in various parts of the work, we suggest that in future editions, if it is not found possible to give detailed articles on diseases and pests after the article on the subject in question, as above, that paragraphs headed "Diseases" and "Pests" be added at the close of each article before any varieties are recommended. As it is, the diseases and pests are only named in their correct order, among the thousands of other cross references. Considerable care has evidently been taken to bring the lists of named varieties up-to-date, but is it worth while to describe scores of named sorts which in a year or two may not be deemed worth growing? Had named varieties been given as a Supplement, this could have been changed without interfering with the book itself, but this is quite impossible otherwise

*"Black's Gardening Dictionary." Edited by E. T. Ellis. 1,238 pp. London. A. and C. Black, Ltd., 1921. 15s. net.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

INCARVILLEA GRANDIFLORA (Brookside).—This trumpet flower is a new introduction since the publication of Robinson's "English Flower Garden." It has larger flowers than Incarvillea Delavayi, but the plants are not so tall, averaging only 1ft. to 1½ft.

TULIPS IN A DIRTY BORDER (L. D. G., Ireland).—Having kept the Tulips in the ground for so long, it would be a pity to risk spoiling them by taking them up now they are coming into bloom. It will be better, we think, to cut away the weeds and to lift the Tulips carefully after they have flowered and then plant rather thickly in rows in partly shaded soil to complete their growths and to finish ripening. The ground will then be at liberty to clean ready for another crop and the Tulip bulbs will take little harm.

NARCISSUS FAILING (T. D. Pin).—The failure may be due to a variety of causes—maggot, eelworm, disease, infected bulbs or unsuitable soil. Bulbs that have failed to appear at all this spring are dead from some cause or other, and we advise our correspondent to seek the cause on the spot. Those that have made healthy foliage but given no flowers should flower next year. "Blindness," so-called, rarely affects any sort but the double Poet's Narcissus, though inferior methods of culture or too dry a soil or position resulting in inferior or weak growth, would produce undersized bulbs that contain no flower buds. In such case improved conditions of cultivation would result in better growth and larger bulbs containing an embryo flower bud. If our correspondent had stated what variety was a failure, and the soil and cultivation accorded, we might have helped him further.

TULIPA SYLVESTRIS (A. C.).—If we interpret our correspondent's letter aright that the clumps of this Tulip are this year appearing for the first time in more than one place in the Azalea bed we should conclude as follows: That, as mutilated bulbs having their basal seats intact, they were present in the bed or introduced thereto with the Azaleas at planting time. If that assumption is correct a year or two would be occupied in forming tiny bulblets with a further term for forming leaf and stem growth to enable them to appear at the surface. This alone under normally deep planting conditions would occupy several years, while the period would be appreciably increased if the bulbs were buried abnormally deep. Bulbs of the character named would account for the present clusters or clumps. A pod of seeds or a part thereof might produce like results, though in that case the clumps of bulbs would almost sure to be found quite near the surface, since seeds of such plants would not germinate at any considerable depth. A bird would hardly be likely to carry seeds sufficient to account for the clumps referred to, though it might conceivably be the unwitting agent of introducing solitary plants occasionally. We incline, however, to the first given view.

THE GREENHOUSE.

BLIND CYCLAMEN CORMS (J. E. B. B., Bude).—Having once failed to grow satisfactorily the Cyclamen corms should certainly be discarded.

CHRYSANTHEMUM FOLIAGE ATTACKED (B. L. L. Cornwall).—The leaves appear to have been pierced by a sucking insect, probably a plant bug, while in the bud. Search should be made for active green or brown insects and if any are found the plants should be sprayed with a nicotine wash.

DRACÆNAS (L. D. G., Ireland).—These form an important family of stove and greenhouse plants, but mostly stove. They are also known as Cordylines. The hardier varieties, such as Dracæna australis, Banksii, indivisa and stricta, succeed very well in an ordinary greenhouse where the temperature does not fall below 50° Fahr. in winter. They are most useful as vase plants for room decoration. In London they are not infrequently used most effectively with other ornamental foliage plants in the decoration of the sub-tropical garden.

HOW TO GROW PEACH TREES AND OTHER STONE OR ORCHARD FRUIT UNDER GLASS (E. S., Windsor).—This is a large subject, and in answer to such a question we can only give a brief outline of the points of work most necessary to observe and to carry out to secure success. Perhaps in late summer we may be able to deal with the matter more fully, but if, in the meantime, any obscure or difficult points of culture arise, let us know what they are and we will help you. If success is to be obtained, it is first necessary to possess a span-roofed glasshouse, so built that the maximum of light in every part of the house during the whole of the day is obtainable. It is also important that the most perfect system of ventilation should be adopted. The size of the house will depend on the number of trees to be grown. It need not be an expensive erection. No centre stage will be required, simply a bed of coal ashes and perhaps a low side stage all round with a path by the side of it. HEATING.—Two rows of 4in. pipes (flow and return) all round the house near the boundary wall will be sufficient. This more to keep out frost than to encourage any thought of forcing the trees. If an existing structure has to be requisitioned, it should be wholly devoted to this purpose (unless perhaps, after the crops have been ripened and the trees turned out of doors, a crop of Tomatoes could be grown), and the conditions approximated as near to the above as possible. The best month to start on the growth of orchard house fruit trees in pots is October. Trees of the various kinds desired may then be bought, of any age or size from three to twenty years. To beginners in this delightful art we would recommend that five year old trained trees, well rooted and established in pots, be purchased. The person to have charge of such a collection should have had considerable experience in their growth and be well interested in the same, as the work is highly technical. It would be courting failure to place such in the charge of an inexperienced person. October is the best month for repotting those of the trees requiring such attention. Keep the trees in a sheltered position out of doors until the end of November, plunging the pots in coal ashes or leaves. Protect the trees with nets if danger of their being denuded of their buds by birds exists. Wash the pots clean and see that the drainage hole at the bottom is clear before placing under glass at the end of November. Keep the house cool and freely ventilated until the buds show signs of growth. A slightly warm temperature may then be permitted, but no attempt at forcing on of growth should be made. VENTILATION.—The side and top ventilators may be used freely in favourable weather so long as growth remains dormant, but immediately signs of growth show, the ventilation must be kept under control, with the object more particularly of preventing cold draughts. These at this time of the year (when growth of leaf and flower commences) are the cause of much trouble in bringing about attacks of mildew and insect pests. THE FLOWERING TIME.—It is important to have a little fresh air moving among the trees at this stage of their growth, let the weather be what it may. Should it be damp and foggy, or there is likely to be frost, then is the time that slight heat should be applied to the hot-water pipes to keep the air dry and buoyant. In bright weather ventilate freely. DISBUDDING THE SHOOTS.—The shoots and flowers appear on the branches simultaneously, as they do on most other stone fruit. As soon as the wood buds are large enough to handle, then is the time to rub away those which are not wanted. Those which must be retained, are the following: The terminal bud at the end of each young leading shoot; the bud nearest the base of each such shoot (on the outer side), and one in the middle (also on the outside), three in all. All other wood buds (young shoots), should be rubbed off, not all at once, but in the course of a fortnight or so after the first have been rubbed off. FERTILISING THE BLOOM.—This should be attended to on sunny days, when the pollen is dry; about noon is the best time. The process consists in communicating the pollen dust from the anthers to the centre of the stigma (which is the centre column of the flower). This is done by various agencies, such as the wind blowing it about, and by bees and other insects. Bees are the best agents, and if you happen to have a hive in the garden, let the same be placed inside the orchard house while the trees are in bloom. For the artificial pollination of the flowers by hand, the most successful way we have found is to do so with the aid of a camel-hair brush, first touching the same against the pollen and then communicating it to the stigma. THINNING THE FRUIT.—This must be done gradually, commencing soon after the fruit is set. Rub off the weakest and the poorest of the fruit first. Finally it is sufficient if each of the shoots are allowed to carry one fruit only, and that, of course, the largest and best. WATERING.—Much care is needed in carrying out this operation. Do not water until the soil is moderately dry. As soon as you find this to be the case, give a copious and thorough watering, and do not repeat this until the soil is again in a dry condition. Use rain water whenever possible. Trees carrying good crops should receive occasional waterings of weak manure water. Peruvian guano is one of the safest and best manures to use. Dissolve a moderate handful in three gallons of water. Apply twice a week (say Tuesdays and Fridays), clean water on other days. Trees carrying a light crop or no crop at all will need no stimulants.

TREES AND SHRUBS.

CLEMATIS FOR IDENTIFICATION (H. B.).—The Clematis in question is probably one of the C. patens group; some of them do bear both double and single flowers. We do not recognise the variety from the description, but it is probable that Messrs. Jackman, nurseryman, Woking, could supply the name. Clematis Armandi is not as a rule a shy bloomer.

SUITABLE SHRUBS TO PLANT IN HEAVY SOIL ON A SLOPING BANK (Cotswold).—The following shrubs should succeed in the position described:—Berberis Darwinii, B. stenophylla, B. Aquifolium (evergreen), B. Wilsonæ, B. Thunbergii (deciduous), Ligustrum lucidum, L. japonicum (evergreen), Ribes sanguineum, R. s. var. splendens, R. aureum (deciduous), Hypericum calycinum (evergreen), H. patulum Henryi (deciduous), Spiræa arguta, S. canescens, S. discolor, S. Aitchisoni, S. salicifolia, S. japonica (deciduous), Rosa rugosa, R. Moysii, R. spinosissima, R. lutea (deciduous), Philadelphus coronarius, P. grandiflorus, P. Lemoinei and varieties (deciduous), Lilacs in variety (deciduous), Forsythia suspensa, F. intermedia spectabilis (deciduous), Cistus laurifolius, C. Loretti, C. monspeliensis (evergreen), Escallonia langleyensis (evergreen).

CARPENTARIA CALIFORNICA UNSATISFACTORY (C. L., Kent).—It is an unfortunate failing with this shrub for shoots to sometimes die off through no apparent cause. Being a subject of general interest, we submitted the shoot sent to a fungus expert, his report being as follows: "The wood of Carpentaria is invaded by fungus mycelium, which is almost certainly parasitic and which is possibly responsible for the whole trouble. Whether or not the fungus got in through a big wound lower down is, of course, impossible to say from the specimen. In this case the fungus may have been merely saprophytic to commence with, and by gradually invading the wood become somewhat parasitic. If Carpentarias are well known to die back in this way it might be well to try and gain further light on the cause. It is a subject the Royal Horticultural Society might very well investigate at the Wisley Laboratory."

FRUIT GARDEN.

PRUNING RASPBERRIES (L. D. G., Ireland).—The pruning of Raspberries depends entirely on the strength of the canes. If these are healthy and are well grown and likely to produce decent fruit all up the cane, it will be enough to cut off the soft and unripe top end of the canes generally, from 6ins. to 9ins. If, on the contrary, the canes appear to be feeble and more or less out of health and not likely to produce much fruit, it will be better to cut them back as suggested. By doing so the canes for next year should be strengthened.

NETTING BUSH FRUIT TREES AGAINST BIRDS (A. R.).—Blackbirds are determined birds, and when ripe fruit is the objective, it is hard to say how small an aperture will bar their entrance. To be on the safe side, we think that 1½in. mesh would be the safest to use. In fixing a permanent roof of this description, the precaution should be taken to leave a few panels which could be opened (or removed) in winter to admit the many birds which are useful friends to gardeners in ridding bushes of insect pests and their progeny. Should damage be suffered in hard winters from bullfinches and other birds denuding the bushes of their buds, a dressing of soot and lime now and again will prevent this and do the bushes good at the same time.

A Correction.—*Re* the article, "Plants for a Shady Rock Garden" (issue March 26, page 148), I beg to draw your attention to a slight error in column two and line eight from the top, *i.e.*, "Fuchsias" should read "Funkias."—R. C. JOLLIFFE.

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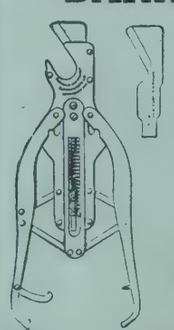

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THE GARDEN

No. 2578—Vol. LXXXV.] [April 16, 1921.

THE NATIONAL ROSE SOCIETY'S SPRING SHOW

I WAS tempted, like many others, to spend a few hours among my beloved friends, the Roses, on April 7, at Vincent Square. The various groups were charming. Mr. Hicks carried away first prize with a group of pillar Roses in which Seagull, White Tausendschön, with the new seedling Belle of Hurste and Dorais James were delightfully toned by Paul's Scarlet Climber.

In the big group from Paul's of Cheshunt, Star of Paradise made an exquisite standard, its star-shaped blooms, pink with a touch of white, being very showy. Emily Gray, Hosier Beauty, Pax and Lemon Pillar, a climber often missed, were others worth noting. So, too, were K. of K. and Lady Gay,

Among the most notable of Mr. Cutbush's group of Polyanthas were Yvonne Rabier, Echo, Mrs. Cutbush, Baby Tausendschön and Greta Khus, the latter being especially good as a standard.

Hicks annexed the first prize for a big group in which Red Letter Day, Paul's Scarlet Climber, Climbing Lady Hillingdon, Joanna Bridge, Ellen Poulsen, Mrs. Dunlop Best, Sunburst (of especially good colouring) and Rosa Hugonis were in fine form.

Mr. B. R. Cant carried away the honours for twenty-four cut blooms, in which Rev. F. Page Roberts, a primrose yellow with Maréchal Niel centre was delightful. Constance Casson, Esme and Phoebe had such old friends to help them as Dean Hole, Testout and Chatenay, to wit. In their larger display Mrs. Oakly Fisher, after the style of Irish Elegance, was one which we shall see often for table work, an orange buff daintily intermingled of clear colouring. Constance Casson, nicely perfumed, and the black red Covent Garden. Esme, a white, tinted mauve on the outer petals, as the blooms open deepens to a primrose colouring; while Rev. F. Page Roberts, Phoebe, Padre and Sovereign, all good, with their own particular charm helped with their beauty to win our hearts. Moyesi, too, must not be forgotten.

For beauty of form, colouring for the garden, as a standard or dwarf and any form of decorative work, Golden Ophelia wins through, as graceful in every way as Ophelia, from which it is a seedling. Its growth is good, it has the wonderful foliage characteristic of this particular cross—one that has come to stay. If you are keen on a good thing, it must not be missed on any account.

Mr. Holland carried the honours in a box of cut blooms with his glorious blooms of Mrs. Foley Hobbs, Duchess of Normandy, Florence Pemberton, William Shean and Florence Forrester were in good condition too. Unless one knows and understands, I do not think one realises the work, time and the hours we spend among our loved ones to bring them to perfection and save them from the ills that so quickly spoil them under glass. Rosarians should be justly proud of any amateur who has given them pleasure, which they perhaps have not until the outdoor plants commence their season.

In six blooms of one variety Mr. Holland gave us a feast. With his superb blooms of Mrs. Foley Hobbs he made me frightfully curious as to what stock he uses for her, for she is a very fickle lady.

Mr. A. T. Goodwin was pleased with his medal for his Maréchal Niels. What a lovely colour it is, but what trouble it sometimes entails! For years one carries on with a mass of blooms, pleasure untold for self and friends, then canker sets in and one has a period which is very trying. It is quicker to clear out and burn the old plants and with fresh soil "and plenty" start afresh. It is the one Rose that has no rival to beat it.

I came across Mr. Prince near by. He speaks very highly of the Rosa Hemispherica, deep sulphur yellow, which he has on a south wall.

In the seedling class Messrs. B. R. Cant got a gold medal for Padre, a coppery orange flame with yellow at the base of each petal, very strong and upright grower, nice foliage and sweetly scented. Also a medal for Phoebe, a perfectly shaped, high-centred bloom of wonderful charm, long deep petals of a creamy primrose, daintily veined, sweetly scented and of a strong habit of growth; and a certificate of merit for Sovereign, a Pernetiana of deep Constance colouring delightfully scented.

Mr. Hicks obtained a certificate of merit for Mrs. Curnock Sawday, a highly pointed Rose pink, nicely scented, of strong growth.

In the table decorations in the open class Mrs. Bide was first with Ophelia, as dainty and charming as ever. Mr. Hicks was second with Joanna Bridge very daintily arranged, and Mrs. May third with Chatenay.

In the artistic class for dinner decorations Mrs. Courtney Page held the day with a true artist's thought for lightness of arrangement with Ophelia. About 2.30 quite suddenly the table lighted up, the sun's rays through the roof just caught the table, and with the foliage and the colour of its blooms its beauty was intensified.

Eve.

A ROSE THAT HAS NO RIVAL

This box of Maréchal Niel contained some of the finest blooms at the Spring Rose Show.

FORTHCOMING EVENTS.

April 26.—Royal Horticultural Society's Fortnightly Meeting, in conjunction with which will be held the Primula and Auricula Society's Show (two days)

April [illegible] Irish Gardeners' A[illegible] Meeting

The Most Serious of all Orchard Pests in Spring

Much of the Damage to Fruit Buds and Blossom Usually Attributed to Frost is Really due to the Apple Sucker (Psylla Mali). Are Your Trees Affected by this Troublesome Insect?

THIS insect, as most fruit growers are aware, is perhaps the most serious of all orchard pests, attacking as it does both the buds and blossoms as well as the foliage of the Apple. Before effective measures can be taken against an insect pest the gardener or fruit grower needs to know its life-history so as to tell at what stage it is in at a certain time of year and what is the most vulnerable period of its life. The following account of the Apple sucker is therefore given:

If Apple twigs are examined under the microscope with a low power, or even with a hand lens, during winter and early spring, a variety of insects' eggs will be discovered, particularly around the buds. Most noticeable perhaps will be a great quantity of small round eggs of a red or deep orange colour. These are the eggs of the winter moth. Then there may be some considerably larger, yellow in colour and oval with rounded ends. These are of the mottled umber moth. Some others are sure to be noticed, between these two in size, pale yellow in colour, and of a rather curious shape. These are the eggs of the Apple sucker, and may be distinguished by their elongated oval form with pointed ends, each end showing a tendency to turn up in opposite directions. Their form may be seen in Fig. 1, but they need very carefully removing from the twig to show thus to advantage, their chief feature being a thread-like process attached to one end, which cannot usually be seen until the egg is removed. These eggs begin to hatch early in April and continue until the first week in May. The young larvæ are at first yellow with brown spots and red eyes, but later on become green. As soon as they are hatched they make their way to the blossom buds, where they may frequently be seen collected in large numbers waiting for them to open. As the buds begin to burst the young suckers work their

3.—THE PERFECT PSYLLA
(*Ten times natural size*).

way into them between the scales. Once inside they set to work to extract the sap by means of their sharp proboscis, and often prevent the buds from expanding, or if they do expand the blossoms dry up and turn brown, some falling off, others remaining on the tree. When the blossom is dried up the larvæ turn their attention to the leaves, which they pierce, causing them to blister, shrivel up and become deformed.

The young suckers change their skins at intervals as they grow, and after three moults rudimentary wings appear. They are no longer larvæ now, but are called "nymphs," as shown in Fig. 2. Both larva and nymph carry a waxy globule attached to a long filament proceeding from the hinder part of the body, and are covered with very fine white, waxy threads. At the fourth change of skin the winged insect emerges, this being from four to six weeks after the hatching of

2.—THE SUCKER IN THE "NYMPH" STAG
(*Fifteen times natural size*).

the egg. The perfect Psylla (see Fig. 3) is about ⅛in. in length and of a general greenish colour, with transparent wings. They may frequently be seen at rest on the leaves, but hop off or take flight at the least alarm. They appear to do no actual harm in the winged stage. The eggs are mostly laid during September and October, but the winged suckers may be found on the trees from May to the middle of November.

Spraying for this pest in the spring is difficult to do successfully owing to the irregularity with which the eggs hatch out. A nicotine soap wash applied when the blossom trusses are expanding will do some good, but it is not really successful unless several applications are made at intervals of about a week during April and early May. This, of course, can only be done on a small scale in gardens. The best way is to destroy the adults in the autumn before they commence to deposit their eggs. This is done by spraying with strong paraffin emulsion, about double the usual summer strength, immediately the fruit is gathered. The majority can be killed in this way, particularly if the spray is directed against the suckers as they fly in the air under the trees. It is not possible to destroy the eggs by any caustic washes in winter. The only thing that can be done is to use a "cover wash," made of lime, salt and water-glass. This should be applied at the end of

1.—THE EGG OF THE APPLE SUCKER
(*Thirty times natural size*).

February or early March, and, provided it is put on thick enough, will prevent most of the young suckers hatching out.

RAY PALMER.

SOW your CINERARIAS in APRIL to GET the BEST RESULTS

Indispensable for Greenhouse and Conservatory Decoration

THE Cineraria takes rank as one of the most showy and useful of winter and spring flowering plants, and on account of its colours it is indispensable for greenhouse and conservatory decoration. Amateurs may easily grow a few plants provided that they will keep them free of aphis during the time they are growing, and also protect them from frost in the winter. In the stellata section we have a class of greater value in some ways than the older varieties; the lighter trusses or open panicles of flowers are useful for cutting. Many growers prefer this section and scarcely grow any of the older strain. This is, of course, a matter to be decided according to individual tastes.

Sowing the Seeds.—Cool treatment must be one of the main rules, and it holds good even in regard to raising the plants from seed. I have found germination very rapid when the seed pan containing the seeds has been watered and stood in a cool shed for a day or two. Sow the seeds thinly on the surface of very light, rich soil either in pans or boxes. Stand the receptacles in a shady, cool frame, where the young plants will quickly appear if kept moist, and they must have all the light possible without being subjected to direct sunshine. When huge plants, flowered in 7in. and 8in. pots, are desired the seeds may be sown in April, but, generally speaking, about the middle of May is soon enough, and from June sowings I have had splendid decorative material in 5in. pots for flowering rather late.

Potting or Boxing the Plants.—The usual practice when the young plants are large enough to handle is to pot them singly into 3in. pots. Where, however, large numbers are raised they are pricked off into boxes at first. When removed from the boxes the plants go straight into 4in. and 5in. pots. Whenever the plants are moved it is wise to keep the frame in which they are growing rather close for a few days afterwards and to afford shade from the sun. The soil used should be of a light character and must not be made too firm in the pots.

Summer Treatment.—The work needed for the after well being of the plants will consist of repotting as required—according to the size of plants at which we are aiming. Never ram the soil in the pots for Cinerarias as is usually advised for some plants—Chrysanthemums, for instance—it can be made quite firm enough with the fingers. The beauty of a finely grown Cineraria depends in great measure on good foliage development, and to induce this a rich, open soil should be used. A compost of equal parts loam, leaf-soil and old manure, with a 4in. potful of soot to each barrow-load of soil is excellent. Stand the plants in cold frames on ashes and draw the lights completely off them at night in calm weather and when heavy downpourings of rain are not expected. Some growers, to my knowledge, place the plants outside at the foot of north walls for a few weeks, but I prefer to have them in frames so that they can be protected at once should stormy weather set in. The plants must not be subjected to the direct rays of the summer sun or scorching will result; they do not readily recover from the effects of this, and really fine foliage becomes an impossible attainment.

Autumn and Winter Treatment.—Cold frames will answer for the protection of the plants right up to November, provided that ample means of protection are at hand in case of severe frosts. Early in November it is advisable to house the plants where full light is secured and a temperature sufficient for the exclusion of frost can be maintained. They do not succeed well in a high temperature; in fact, the latter has a bad effect in encouraging aphis attacks, therefore the cooler the method of cultivation, in reason, the finer and healthier will be the resulting plants. Feeding may commence when the plants have become thoroughly established in the final pots and flower trusses are produced. Farmyard manure is a useful nitrogenous stimulant; applied weak and often it assists in the development of large, healthy foliage—a sure forerunner of good flowers in plenty. Although not strictly a plant food, lime-water may be used with beneficial results. During the time the plants are flowering in spring shade them during sunshine and they will remain fresh and beautiful for a longer period.

Insect Pests.—When the above cool methods of cultivation are carried out insects will not give a great amount of trouble. The two serious pests of the Cineraria are the leaf-mining maggot and greenfly. The latter can be kept in check by constant syringing and occasional fumigation. The former is the larva of a dipterous fly, which lays its eggs in the leaf. These develop into the larvæ which tunnel the leaf and render it unsightly. Soot-water sprayed over the plants in July and August will keep away the flies. If the insects are observed, squeeze them between the finger and thumb.

James A. Paice.

THE IDEAL FREESIA

A Raiser's Opinion of the Latest Novelty

THE Freesia flower is one of the last flowers that have been taken in hand by man to make or mar. The truth is man cannot leave anything alone. I do not think it was ever intended that he should; the instinct is too catholic. As Vincentius might have said, it is to be found everywhere, at all times, and among all people. So Freesias in their turn have become as clay in the hands of the potter; and some serious questions thus arise for those who are trying to fashion them into something different from the state in which nature left them. The factors that go to make up almost any flower are those of size, shape, scent and colour. Anyone who has raised a few hundred seedlings knows how wide are the differences between them. What are we to go for? I have my own opinion as to what constitutes a beautiful Freesia flower. It is something very different from that which makes one in the eyes of the Floral Committee of the Royal Horticultural Society or they would never have given an award to Treasure on March 8 of this year.

Treasure was big and Treasure was round and fat. But are bigness, roundness and fatness so important in themselves as to exclude all other considerations? The relative value of these, of course, depends upon what seems good in the judges' eyes. It is the old question of the best Potato. The chef of the Ritz and Bill, the fried fish and chips man, would not agree over Golden Wonder and Majestic. *Chacun à son goût.* So it is with Freesias. I am wholly for the more flat open type of bloom, such as one gets in the white Purity or in the rich purple Daddy-long-legs. In my own mind and in the opinion of the majority of people who come to see my flowers, the rounder type, such as we get in Buttercup and Treasure, are not in it for effectiveness and beauty, if the standpoints from which they are judged are their adaptability for cutting for the house and for using as pot plants. Then, as regards the deep mauve or washy purple markings on Treasure, our object at Whitewell is to eliminate these in all yellows and whites and to try to get a pure clear colour. Here again I cannot understand an award being given with these markings so prominent as they were in Treasure.

One word in conclusion. What was wrong with Mr. Dalrymple's most interesting collection of splendidly grown Freesias which were staged on this occasion? The Council of the Society make a great fuss about calling the Tuesday gatherings "meetings" and thereby throw a sort of semi-scientific atmosphere over them.

The improvement of flowering plants by cross fertilisation or by hybridisation, and results only to be had by good culture, one would imagine, would be things to be encouraged. I have never seen better grown or a more interesting group of new varieties of Freesias staged in the hall, and the Council gave it a silver-gilt. . . . *No;* a silver Banksian! Magnificent!!

Joseph Jacob.

NEW SEEDLING FREESIAS RAISED BY MR. DALRYMPLE.
The flowers vary in form, and the colours range from shades of rich mauve to orange and pink.

A Graceful Plant for the Conservatory.—To be brought to perfection Humea elegans must be finally placed in pots not less than 7ins. across, and specimen plants may be potted into 9in. or 10in. pots. For the final potting use good fibrous loam to which has been added some peat, leaf soil, old mortar rubble and sharp sand. Ample drainage is essential, and the plants should always be grown cool

HOW TO SUCCEED WITH AURICULAS

An Amateur's Methods of Propagation

FROM an excellent private collection of Auriculas the following notes are culled. All the plants are raised from seed or by offsets and comprise, besides all the well known varieties, many distinctive plants of the grower's own crossing. Without going into technical details it may be said that when the seed is obtained it is sown as soon as possible, and the seedlings when ready to be pricked out, which they are as soon as they show their rough leaf, are planted out in shallow boxes, and later in the season potted off for trial blooming.

The propagating of the well known varieties is by offsets obtained from the parent plant when they are being repotted in May and June, but some eighteen months has to elapse before these develop into flowering plants.

Among the varieties grown are the following—Grey edged: Colonel Champneys, Lancashire Hero, Beauty and Olympus. Green edged: Mrs. Henwood, Shirley Hibberd and Rifleman. White edged: Anne, Heather Bell, True Briton and Snowdon's Knight. Selfs: C. E. Perry, Lord of Lorne, R. H. Weir, May Day and Heroine. Fancies: Gold Mine, Golden Plover, Double Yellow, Double Green, Old Gold, Double Crimson and Gordon Douglas (golden yellow flushed bronzy green).

The collection runs into hundreds and is accommodated in a specially built long, low frame raised about 2ft. from the ground by a brick foundation. The plants are arranged on narrow shelves in ladder formation, and the range and variety of tone is most striking when viewed from above. Some of the clusters have no less then ten to twelve blooms, while the delicate mealy powdering of the foliage is a particularly pleasing contrast against the bewildering mass of colour.

By the end of April the plants are in full bloom and any seed it is desired to obtain is done by cross fertilisation, making use only of the best plants with a known constitution and keeping each division to itself. No "pin eyed" specimen is allowed to exist in the collection, but is at once ruthlessly discarded; this defect, however, seldom occurs, as the named varieties are quite free from it, but occasionally it crops up among the seedlings.

G. E. CASE MORRIS.
South Devon.

AURICULA GORDON DOUGLAS.
The flowers are rich yellow flushed with bronzy green.

Fragrant Foliage Plants

I AM missing from gardens which I visit occasionally plants valued on account of the fragrance they emit through their leaves. Some of these gardens are old, and the plants as they die off do not appear to be succeeded by others of a similar character. In a word, there is no attempt at propagation. Modern gardens are noted more for the beauty of the blossoms, and the things once prized are seldom, if ever, thought of. There is a certain charm, however, about some of the old fragrance bearers that surely entitles them to more recognition than they are given to-day. Some country folk, however, with whom we are acquainted still honour Thymes and Balm, Rosemary, Lavender and Myrtles, while two other old-fashioned things not always to be found in prominent places are not infrequently to be seen in odd corners of the garden—Lad's Love and Bergamot. In the windows, too, of certain cottage homes we know we still find the Oak-leaved Geranium, Lemon-scented Verbena (Aloysia) and Musk. Near the garden gate there are the same bushes of Sweet Briar that twenty years ago we first pressed between our fingers and that after rain on a summer night competed with Pinks and Rockets and Stocks in the border in richness of perfume. It is to my mind a matter for regret that in gardens to-day so little provision is made for plants that breathe sweetness through their leaves. W. LINDERS LEA.

WHAT IS A BORDER CARNATION?

An Amateur's Outcry Against Growing these Flowers Under Glass—And a Reply

IN your issue of February 26 I was greatly interested in the article by J. L. Gibson and was surprised that amateurs are advised to make a note of the contents. It is very kind to advise amateurs the composts used by growers for potting, but why apply this to a flower which, by its very name, suggests the garden and not the greenhouse. I am fully aware that the trade make a speciality of exhibiting blooms of border varieties which have never while in their possession been tried in the garden until they have been passed on to their customers. They are grown in large houses built especially for their reception and the result is beautifully clean and evenly marked flowers. Try some of them in the open (which the Border Carnation is intended for) and the blooms disappoint the working-man amateur, not the amateur who employs a gardener and has unlimited funds for building houses to grow them in. Surely it is time the society dealt with the question as to what is a Border Carnation. I say it is useless for a grower (whose catalogue, I have) to tell us to grow the Border Carnation in the border and keep the perpetual in the house when that same grower is doing that which Mr. J. L. Gibson advised, mixing composts for final pottings and then selling the resultant layers for growing in the border. Some years ago I purchased plants from a firm who made a special note: "All layers taken from the open ground." That should be the aim, then working on the lines of your "Gardening for the Week," page 107 of the same issue as potting is advised. I should like to hear the remarks of others who are interested. If an alteration were made we should not see nine or ten prizes being taken by one person, in classes where at the most there are no more than four competitors. LONDON CARNATION AMATEUR.

This letter in proof form was sent to Mr. J. L. Gibson who replies: "'London Carnation Amateur's' communication is very interesting and I am glad he has written this note as it deals with a subject repeatedly under discussion at both formal and informal meetings of the Committee of the National Carnation Society during the past winter. The writer represents the largest class of amateur in the country—the grower of Border Carnations *in* the border, where, indeed, they are meant to be grown. Recognising that growers of open air plants should have opportunities of exhibiting at the annual display without handicap, the Committee have opened a class for Carnations grown out of doors, and I hope 'London Amateur' will be able to bring up some of his blooms to Vincent Square on July 26 to compete in that class. 'London Amateur' will readily understand why professional growers cultivate their stock under glass. It is only right that an exhibit of Border

Carnations should show the flower at its best, and, as he says, protection from the weather produces beautifully clean and evenly marked blooms. But apart from that, pot-grown plants are so very much easier to layer and to keep free from pests, and the 'grass' is, or should be, healthier and cleaner than from the ground stock. The writer, however, is at fault in saying that these specially cultivated plants have never, while in the possession of the growers, been tried in the garden. To begin with, all named Carnations start their career as garden or field grown plants, and many growers continue to cultivate some of their stock in the open with the object of keeping them hardy, though I think this is not at all necessary. Good house-grown Carnations will give excellent results when put outside if the cultivation is correct. For several years a lady grower exhibited beautiful flowers grown all the year round in the open, and took prizes in competition with growers who had all the benefits of greenhouse culture. The houses in which Carnations are grown by the trade are unheated and abundantly ventilated, the sole object of the glass covering being to keep the flowers clean, and, personally, I would much rather purchase layers from plants so grown than from those cultivated in beds or borders, for the simple reason that they are clean, healthy and strongly rooted. I have tried both sorts of layers myself, for planting outside and for pot cultivation, and have always been better pleased with the results of layers out of pots.

"The article referred to was written, of course, for the benefit of amateurs who grow under glass, and I am told their number is increasing every year, but I am very much in sympathy with 'London Amateur' in his desire that the Carnation Society should foster and appeal to the grower who has no glass at his disposal.—J. L. Gibson."

SWEET PEA SUGGESTIONS

Distance to Plant and the Best Means of Support. Wisdom in Top-dressing.

THERE is no plant easier to grow than the Sweet Pea. Simple digging to a depth of 8ins. or 10ins., without the addition of any manure, will produce good plants with plenty of energy for free and continuous flowering, provided that they have enough space for branching. One sees in cottage gardens the row of mixed colours for which no special preparations were made, and they remain in charm several weeks, all the time diffusing a fragrance which the modern varieties cannot equal. In one instance which came under the writer's personal knowledge, an old sand path was dug with a fork, a little manure was added, the plants were given a distance of 10ins. asunder, and they blossomed profusely from the second week of July until October, receiving no liquid manure and only one soaking of water throughout the whole period. Many of the stems were upwards of 1ft. in length, and when the plants were well in their stride stems of four flowers were common. They are, however, worthy of much better attention than this; in fact, considering the rewards they bring it may be fairly regarded as impossible to do things too well.

One of the finest materials to go on top is wood-ash, especially if it is from "live" hedge trimmings or tree prunings, since the potash content therein is much higher than from dry wood. Old soot, too, is excellent, but it, similarly to the wood-ash, should have been stored in a dry place. In nearly all soils poultry manure, which has been stored dry in its equal bulk of mould, favours results, but it demands more than ordinary care in application owing to its highly stimulating nature. All things considered, it is wise for those who are not accustomed to handling it, and do not therefore fully appreciate its action, to withhold it from the soil and to use it as a mulching or in liquid form when the plants are in full activity.

The distance of planting is, of necessity, governed in considerable degree by the principal object of culture, with which, of course, is intimately associated the system of training. The old fallacy that the closer the planting the greater the number of flowers, has died a just death. Therefore, when one requires masses of flowers for home and garden adornment plenty of space is imperative to enable the plants to bring their side growths to perfection The minimum distance should be 8ins., and if triangularly. For exhibition 1ft. must be the minimum from plant to plant, and in all instances

A COTTAGER'S DISPLAY OF SWEET PEAS AND PHLOXES.

5ft., with an additional 1ft. if the space can be spared, must separate the rows, which, for preference, as simplifying shading, should run east and west. When the plants are grown in clumps of five or six allow the same distance between them individually and not less than 4ft. from clump to clump. Immediately after the planting is completed a generous surface dredging of soot is particularly beneficial

Supporting.—This is a point of paramount importance, and, incidentally, almost invariably a source of some worry. For general purposes there can be no question that fresh Hazel sticks not less than 8ft. long are infinitely the best. Some training of the growths in the way that they ought to go will be essential, but the tedious process of tying is obviated, since the tendrils process of tying is obviated, since the tendrils will secure such a firm grip on the friendly wood growths will look after themselves quite satisfactorily.

Much of the charm of the Sweet Pea when grown for garden adornment, in rows or clumps according to circumstances, lies in its naturally free habit of growth, which character is, of course, fully maintained with sticks as supports. Where netting of any kind is employed there is some formality in the earlier stages, but it passes when the plants reach their full vigour unless tying in is done too closely; this fault must, therefore, be studiously avoided. Whatever the form of support decided upon finally, it is important that before the plants exceed 4ins. in height they shall have twiggy sticks put to them to which they will be attached and whence they will require occasional ligatures to direct them on the correct lines towards permanency

that no wind will move the plants unless it blows the sticks out of the earth. In some districts these are readily procurable, whereas in others no money can purchase them. Various brashy woods are used according to circumstances, and they answer the purpose well. Strong Bamboo rods are admirable, but the labour in tying is considerable since the tendrils (which are promptly removed from plants grown expressly for exhibition) show no partiality for the hard, smooth surface; another objection is that they are very expensive. Probably the best support, failing Hazel, is the square meshed Simplicitas netting, notwithstanding the comparatively high initial cost, against which must be set the fact that with proper care the material will last for several years It is necessary to attach it securely to stout supports, the lower ends of which must be efficiently creosoted or tarred with a view to their preservation; the strands of wire must be stretched very tightly indeed, the top one especially, or there will be serious sagging. Excellent, too, but again costly, is large-meshed galvanised wire-netting; this, however, will last for many seasons. It is essential that both the Simplicitas and the wire-netting shall be thoroughly dry prior to storage, and any faults seen must be instantly repaired. For general purposes a height of 6ft. suffices, or rather less in soils and districts where the plants do not attain to great vigour. To start with some tying will be required, but with full activity the

A Wall Garden that Produces Flowers from February to October

IN the accompanying illustration will be seen a wall, which is about 3ft. high and 100yds. long, facing south, north-east and west. The various plants that are cultivated I will enumerate for the guidance of those who are about to make a hobby of wall gardening—it is certainly a fine finish to a scene, as a boundary to either a flower, a kitchen or a Rose garden. The one illustrated is at the base of a Yew hedge which encloses a Rose garden. Of course, the higher the wall the greater variety of plants; providing the wall is built the right way, to hold moisture in dry times. If built with plenty of stone and some substantial soil, the rocks or stones thoroughly embedded, and the plants made quite firm, then good results will be obtained, as the rocks part in Nature is to act as reservoir or sponge, absorbing the moisture in the air in order to render it again through the agency of the plants. In smaller walls it may be found necessary to water during a very dry spell, when it is best to do it very thoroughly. Many little rock plants will send their tiny roots several feet between the stones in search of moisture. I have tried sometimes to get tiny plants from rocks by the seacoast on the cliffs at Guernsey and in Cornwall, but could never get some of them intact. I much prefer to plant in the stones than to sow seeds, as the seeds often get either dried up or washed away or scratched away by birds before they have time to get established. When practicable, planting should be done as the wall is being built, so that the roots can be properly embedded or stretched out in the soil between the rocks. When once established they will seed and come up naturally in their own sweet way and time; for instance, look at an old wall with Wallflowers and Antirrhinums growing on the top, seemingly in nothing. That is Nature's way, and she succeeds often at reproduction when we fail by artificial means.

I favour autumn for planting because the plants can find the rooting medium and commence to grow quite naturally in the spring and make a show the first season, which has the advantage over seed sowing if we make a few exceptions.

Among the many plants that may be grown on walls Saxifragas are excellent, especially those of the mossy section, and these should be placed in the coolest part. Alyssum alpestre, A. montana, and A. saxatile; Ajuga reptans, A. purpurea and A. variegata; Anemones of kinds; Aubrietias of all varieties (Dr. Mules looks glorious when in masses); Fire King, Mœrheimi, and Mrs. Lloyd Edwards; Antirrhinums in variety; Arabis fl.-pl.; Arenaria montana and A. balearica; Campanulas, especially muralis, which flowers over a long period in different aspects; Linaria Erinus; Dianthus, practically all these do well and last some few years; Epimedium, Euphorbia, Cheiranthus, Haberlea, Ramondias, Linarias and Lithospermums; Primula Juliæ, Sedum sempervivum, Thymus coccineus (in fact, all these make a fine show in August), Veronica repens, V. incana and others; Saxifraga oppositifolia, S. Burseriana, Poppies, Hypericums, Iberis Little Gem and other varieties; Sedum pulchellum makes a nice corner plant and grows well. Rock Roses, Phlox setacea and Vivid. With a collection something after this style much pleasure and amusement can be had, say, from February to October. I have not mentioned bulbs, but many Crocuses and Narcissus can be used for early effect. The Crocus species do very well in these walls, especially on the top.

W. A. COOK.

Drynham, Oatlands Chase.

A LOW WALL MADE BEAUTIFUL WITH ALPINES.

Sporting of Indian Azaleas

SMALL plants of Azalea indica are among the most popular of our spring pot plants, and a large trade is done by florists in this class of plants, in which there is considerable choice of colour from pure white up through shades of pink to deep crimson. Sporting has for long been a common feature of these plants, and an Edinburgh West End florist told me recently that this trait of character seems to be on the increase and is naturally an objection in the eyes of purchasers, who have their prejudices as to certain shades.

Not a few of the plants show two distinct shades, sometimes in nearly equal proportions, the line of demarkation being almost a straight one. Can any of your scientific correspondents account for this phenomenon or suggest means for its extermination? CALEDONIA.

MY SPRING FLOWERS

BY H. J. ELWES, F.R.S., V.M.H.

AS this is my fiftieth year of gardening and also the earliest spring that I ever have seen or shall see, I give a few notes on plants in flower on March 31, though not all yet at their best. To those who do not know Colesborne I may say that it is in a cold, though fairly sheltered, situation 550ft. above sea-level in the Cotswold hills on oölite soil, containing so much limestone that no Rhododendrons will live, and where, in ordinary seasons, severe frosts occur up to the end of May. I hope and pray that there may be none this year. The rainfall averages 35ins., the hardest frost this winter, about 20°, was in December. I omit many common plants which everyone knows and only mention the best species.

Anemone Pulsatilla, a month before its usual time; A. blanda rosea; A. b. scythinica, a perfect weed in my garden, seeding profusely and so different from A. blanda in habit that it ought to be a distinct species; A. fulgens, a month before its usual time and very good; Claytonia virginica; Corydalis Alleni, a form of cava, I think, but distinct in colour; C. cheilanthifolia, a veritable weed, seeding itself everywhere, but the most beautiful for foliage and flower of any weed I know and harmless to its neighbours if kept within bounds; Cardamine trifoliata; Cheiranthus linifolia, also inclined to seed itself too much, but a good plant for dry places; Euphorbia Myrsinites; E. polychroma; Epimedium sulphureum; Geum Rossii, a pretty New Zealand rock plant which seems hardy and is so at Edinburgh; Iberis petræa, very dwarf, floriferous and pretty; Jeffersonia dubia; Isopyrum thalictroides, very dwarf and elegant, but too much inclined to spread; I. grandiflorum, a very much overrated plant, judging from its behaviour here and at Edinburgh; Hacquetia Epipactis; Hepatica Pauli, a large and fine variety given me by the late Mr. Boyd, little known in gardens; Meconopsis integrifolia, quite out of season, but has been in flower all through March. I think this is a distinct form with fringed petals. Gentiana acaulis, not yet fully out, but the white variety is showing colour and seems earlier than the common one, if not so vigorous; sent me by Mr. Bulley as G. a. sp., but very near G. verna; Lithospermum prostratum; Helleborus corsicus, unusually good and early; H. guttatus, from the Caucasus, the best of the orientalis section; Omphalodes verna; O. cappadocica; Oxalis oregana, a real gem, the best by far of the Acetosella section which I saw in perfection in the redwood forests of California in 1919; O. Griffithi, a rare and pretty plant from Sikkim, which, however, may not prove hardy; Primula Juliana, a much better plant than its parent Julia, which, like many

Primulas, is not happy here; P. rosea, perhaps the best of all Himalayan species when seen in perfection; Pæonia Mlokoswitchi, showing bud, but not yet out, the earliest and best of all yellow Pæonies; P. Canbedessidesi and P. cretica, the next two earliest, most distinct and beautiful, both showing bud six weeks before their proper season; Saxifrages too numerous to mention and not much earlier than usual, S. Griesbachi easily first in its section, S. Stuarti and S. purpurea both very good; S. Boydii, S. Faldonside, S. Irvingi and S. Delavayi, all rather past; S. Stracheyi, though one of the most beautiful, is always cut by even slight frosts, and has not escaped; Sedum Palmeri, a lovely and floriferous species from Colorado, which, though better in a cold greenhouse, has survived and flowered well in the rock garden. Shortia galicifolia and S. grandiflora both kept in a sunless north frame, as they do not thrive in my soil, and both out long before their proper time; Parrya Menziesi; Petasites nivea, perhaps the best of the genus, but inclined to spread too much; Polygala purpurea; Sanguinaria canadensis; Trillium grandiflorum must be a distinct variety, as it flowers a month before the common form, which is not yet showing above ground. Can anyone tell me its origin? T. album, a very beautiful plant with its blotched foliage, seems indifferent to lime in the soil, and seeds profusely in many places. Sisyrinchium grandiflorum.—I cannot keep the beautiful white form of this plant. Can anyone tell me whether it is a question of soil?

Bulbous plants as a rule have not done well, owing, I suppose, to the wet season of last year and in some cases due to their having become too crowded during the war. Snowdrops, however, are a brilliant exception, as they never once had to lay their heads down during February. The best now in flower are Bellevalia romana; Erythronium, several species; Iris bucharica (I rather doubt whether this will prove really hardy); I. stylosa, the white variety flowers here most freely; Leucojum, an early flowering form of æstivium from the Riviera; Narcissus, a presumed hybrid of Queen of Spain and Johnstoni which was given me by the late Mr. Godman, and which is the earliest and has a very robust constitution on my soil, on which many of the newer varieties degenerate rapidly or die out; Fritillaria Imperialis inodora, the Kashmir variety, always earlier than the others; F. latifolia; F. ruthenica; Korolkowia Sewerzowi; Puschkinia scilloides; Scilla Lilio-hyacinthus and its var. alba, a very good and distinct species from S. Faldonside, which increases freely and is quite hardy; S. alba; S. messeniaca; Chionodoxa Luciliæ, a perfect weed here, but a very beautiful and harmless one, which seeds in thousands everywhere; Tecophilæa cyanocrocus, which here requires the shelter of a frame; Muscari moschatum major, another real gem with the sweetest scent of any hardy bulb known to me. Why it is so rare in gardens I do not know, but I never see it elsewhere.

I say nothing of hardy shrubs because many of the best do not thrive here, but Berberis Darwini, which was nearly killed four years ago, has now recovered and is easily first in beauty. Next to it comes a crimson form of Pyrus japonica, which I raised from seed, and Amygdalus nana, a souvenir of Bitton, which is opening its first

A CHOICE ALPINE PLANT

The Soldanellas are all dear to the heart of the lover of alpine plants. The subject of our illustration, Soldanella montana, the giant of the race and a most noble and stately species, is comparatively easy to grow in our humid climate in a cool, moist, gritty soil, with ample drainage.

The flowers, which are of a lavender lilac colour and deeply fringed, are carried at intervals on stems about 9ins. high and average about five or six to a stem. During the winter months all Soldanellas should be protected from overhead rain by sheets of glass, thus giving them the rest they need to flower freely.

They make charming subjects grown in pans for the alpine house, easily propagated by division, or grown from seed sown as soon as ripe. A good sprinkling of stone chips keeps the foliage and flowers clean, also retains the moisture at the roots. This species is found in the Alps of Austria and Transylvania, generally at an height of 3,000ft. to 4,000ft. H. Craven.

THE FLOWERS OF THIS DAINTY ALPINE (SOLDANELLA ALPINA) ARE LAVENDER LILAC IN COLOUR.

New and Rare Plants

FIRST-CLASS CERTIFICATES.

Lælio-Cattleya Orange Blossom (L.-C. Elinor × C. Trimyra).—A specimen of this handsome novelty having a four-flowered scape was shown. The colour is deep chrome orange of a delightful shade and highly refined withal. The prettily goffered lip is an additional feature. Shown by Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt.

Odontoglossum Diamond var. Perfection (O. King Arthur × O. Eximium).—A novelty of rare size and substance and very dark, almost wholly blotched chocolate petals and sepals. The lip is white, and there are white markings enclosing shield-like panels on the richly coloured petals. From Messrs. J. and A. McBean, Cooksbridge.

Odontina W. R. Fasey (Miltonia Venus × Odontoglossum Louise).—The form of the flower favours the Miltonia, its purplish markings and round spots on a white ground demonstrating the influence of the other parent. Remarkable rather than beautiful and, of course, of great interest to the hybridist. From W. R. Fasey, Esq., Snaresbrook (gardener, Mr. E. J. Seymour).

AWARDS OF MERIT.

Odontoglossum Lady Avice Menzies.—A fine form with pointed petals and richly coloured markings.

Cattleya Mary Sander (Dusseldorfi Undine × Suzainne Hye de Crown).—A magnificent pure white of fine parts, the sepals unusually long. A greenish yellow touch is seen in the throat. These were from Lieutenant-Colonel Sir George Holford, K.C.V.O., Westonbirt (gardener, Mr. H. G. Alexander).

Odontoglossum Robert Venables (Eximium × Rosella).—A distinct and large variety, having dark blotched flowers clouded mauve at the edges.

Odontoglossum Barnaby Rudge.—This of wine purple shade and whitened lip. It is handsome and striking. These were shown by W. R. Fasey, Esq., Snaresbrook (gardener, Mr. E. J. Seymour).

Prunus cerasus polosinscula media.—A charmingly interesting and pretty flowering shrub from Szechuan and Western Hupeh, China. The pink, golden anthered flowers are produced in cylindrically fashioned outline in 3ft. long branches, and to the accompaniment of bronzy leafage constitutes a most effective feature.

Prunus Sargentii.—Large single pink flowers in considerable freedom and bronzy leafage mark this valuable addition to flowering shrubs. These were admirably shown by the Hon. Vicary Gibbs, Aldenham House, Elstree (gardener, Mr. E. Beckett).

Azalea Mollis Robespierre.—A magnificent form with huge trusses of light fawn orange-flushed flowers. We think it one of the handsomest we have seen. From Messrs. R. and G. Cuthbert, Southgate, N.

Narcissus Enez.—A Leedsii of the IV A group and a novelty of distinction and merit. Of almos and uniform citron colour throughout, rather more sulphury perhaps in the segments and the base of the crown, its huge, frilled, expanding, crinoline-formed crown is an outstanding feature, and backed by a strong and good perianth with overlapping parts, resolves itself into a fine type of Giant Leedsii. From Mr. W. F. M. Copeland, West View, Shirley, Southampton.

The above-mentioned novelties were shown before the Royal Horticultural Society on April 5, when the awards were made

White Foxgloves.—Numbers of these which were self sown and latterly put into nursery lines may now be transferred to various parts of the ground. For grouping in odd corners of the wild garden or on the margin of the woods they are unsurpa

THE LONDON DAFFODIL SHOW

A SPLENDID ARRAY OF BLOOMS AND A :: £50 BULB ::

THE HANDSOME YELLOW TRUMPET DAFFODIL KING ALFRED.

"TOSSING THEIR HEADS IN SPRIGHTLY DANCE."

THE Show of 1921 was quite the equal of any that have been held at Vincent Square or in the Drill Hall. It is impossible to remember with sufficient exactness all the details of previous years to be able to say more. There were a large number of first-class seedlings, both in the competitive classes and in the many excellent trade exhibits. These latter will furnish me with matter for my next notes; so, beyond mentioning what was undoubtedly the most novel and striking flower in the whole Show, these will be passed over in silence. The Peter Barr Memorial Cup, which is awarded every year to someone "who has done good work of some kind on behalf of the flower," was unanimously awarded to Mr. A. M. Wilson, who has not for some time enjoyed the best of health, but whose beautiful and refined seedlings are still fresh in the memory of those who are popularly called experts. Everyone hopes that the more bracing climate of his new home will set him up again, for, if report be true, he is as keenly interested in "good things" as ever. We were all glad to see Mr. P. D. Williams again after his accident, and the flowers with which he entered for the Engleheart Cup (Class 39), which is the Blue Ribbon of the Show, demonstrated that his stock of home-raised flowers is far from exhausted. May I mention as new and very successful competitors Mr. E. England, from Exeter, who had one of the "extra-extras" in a seedling which in a slight degree reminded me of Buckland's Pink 'Un, only the rim of the wide-spread eye was not quite as pink; and also Mr. J. Lionel Richardson, from far-off Waterford, who was first in Class 65, thereby winning the Barr Silver Daffodil Vase. Mr. J. S. Arkwright, another newcomer to the London Show, was a close second and had some good flowers. It reminded me of old times to see Mr. E. H. Krelage of Haarlem among us again. He had a remarkably fine lot of Trumpet varieties in Class 2 and was an easy first. Of course, Mrs. Ernest H. Krelage was among them. I also noticed Faust, a good yellow; and a pretty pointed-petalled ivory white and pale primrose Trumpet marked 321.

The Sensation.—This was a vase of six blooms in the centre of Messrs. Barr and Sons' exhibit. Everyone was asking all morning long if I had seen it, but, having show duties to perform, I never was able to get near it till after five o'clock. By that time the stock was sold—not that I had ever intended buying it!—for close upon £300; that is to say, somewhere about £50 a bulb. What gave it this high value was the deep pink of the trumpet. It is far and away the highest coloured trumpet in this shade that I have ever seen. I found opinion very divided upon its beauty. Because it was a Daffodil its colour seemed to shock some people. This remark was made to me: "If it were anything but a Daffodil I would like it." Others said the same thing in other words. No one that I met raved about it. For myself I look upon it as a "great marvel," as old Sir John Mandeville used to say when he had narrated anything that he thought particularly startling.

Some Good Flowers.—The names are in no particular order, and the varieties are confined to those exhibited in the competitive class. Several real old stagers were well to the fore and did themselves credit, *e.g.*, Monarch, shown by Miss Warren, of Westbere, Canterbury, was A 1. Good cultivation works wonders. An excellent example of Mrs. Robert Sydenham had a diameter of full 4ins., whereas in another class, measure as I would, I could not make it more

than 3¼ins. Prospector, a Trumpet variety raised by Mr. Engleheart and exhibited by the Donard Nursery Company, was distinguished by its rich deep yellow colouring in both the perianth and trumpet, which is boldly flanged. It is not a large flower; it has a diameter of 3¼ins. Royalist, raised and shown by Dr. Lower, of Presteign, in the collection with which he won the Engleheart Cup, is as refined a pale yellow Trumpet as up to the present has been produced. It is quite of the White Knight class. 1921(w) is a deep yellow Trumpet of the smoothest and thickest texture, faultless in shape, and, as far as I can judge, the high-water mark of its class and colour. The perianth has a diameter of 3⅜ins. It was raised and exhibited by Mr. P. D. Williams. 1/K/50. I should like to have written, instead of these mystical figures and letter, Beauty of Exeter. I think Mr. England will be a lucky man when he raises a flower to beat it. Its perianth has a diameter of 3½ins. and its eye one of 1¼ins. Golden Pedestal, raised and shown by Mr. Richardson, is a deep yellow replica of Pedestal. It is a very good flower—so clean looking or so clear cut. Beauty of Radnor, one of Dr. Lower's, attracted much attention. It is a very symmetrical flower, and the salmon-brick red edge to the cup most pleasing; but to my taste there is rather too much inside to the cup, and its proportion suffers. Others did not think this any detriment. Twilight, which was raised and exhibited by Mr. W. Welchman, is a pale bicolor Trumpet with a shapely, overlapping perianth which stands out flat and stiff. It is a good flower. The perianth has a diameter of 3⅝ins. Joseph Jacob.

(To be continued.)

NARCISSUS SEAGULL

The illustration does not flatter this charming variety. For three or four years it has been left undisturbed, and each spring it has flowered profusely. It belongs to the Barrii or short-cupped section, the perianth being pure white

ONE OF THE BEST FOR CUTTING (NARCISSUS SEAGULL).

and the cup canary yellow, while the foliage is remarkable for its blue-green tint. Altogether it is splendid for cutting. It was one of the first varieties sent out by the Rev. G. H. Engleheart, who, by the way, always selects beautiful names for his Daffodils.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Roses.—When the pruning is finished the beds and borders should be lightly forked over and at the same time some well rotted manure or a good fertiliser worked in where thought necessary.

Annual Asters.—These are worthy of especial note for late summer and autumn displays, and there are few annuals so useful as cut flowers for indoor decoration. A sowing may be made now in a cold frame or outdoors in rows a foot apart where the plants are to remain. The plants should afterwards be thinned to a foot apart. The sinensis class is the most decorative. Heavy soils should have a liberal addition of leaf-soil and burnt refuse added.

Perennial Asters and Phloxes may be easily increased by removing some of the young growths when several inches in length and inserting them as cuttings in a close frame. If not required for the flower garden they may be usefully employed for conservatory decoration. If used for this purpose as soon as cuttings are rooted place three in a 4in. pot, afterwards transferring them into 6in. or 7in. pots, giving treatment similar to Chrysanthemums. No pinching of the growths must be done.

Planting.—Aim at getting such subjects as Pentstemons and Violas all in their flowering quarters without delay to enable them to withstand a dry spell should there be one overhead, and also to allow of more time to be given to those subjects which cannot be planted until all danger of frost be past.

Potting and Propagating.—Cuttings of quick-growing subjects like Ageratum and Lobelias may still be put in if supply is in doubt. Where space and time permit any plants of Marguerites, Heliotropes and Salvias should be put into 5in. pots, otherwise the plants get starved and consequently do not grow away so freely when planted in the beds. Marguerite Mrs. Sanders is a plant which well repays such treatment. It is one of our best double white subjects for inside or outside.

The Kitchen Garden

Winter Greens.—Another good sowing to augment general and main supplies should now be made of Broccoli, Kales and Savoys, to be followed by a later one if demand warrants it, in about three weeks time. Sow in drills a foot apart so that the hoe can be used to keep weeds in check. As soon as the seedlings are through dust them over at once with soot to ward off slugs, and net them to protect from birds, which are sometimes very troublesome during the first weeks of growth.

Potatoes.—Late varieties should be given ample room, and 4ft. is not too much to allow between the rows. In any case the mininum should be 3ft. At the Ormskirk trials last year the greater distance was found advantageous as tending to minimise the spread of unhealthiness. Where digging operations are in arrears this and the planting may be carried out concurrently.

Fruit Under Glass.

Figs.—In the early house make the most use of sunny days by closing the house early and syringing the trees thoroughly, and thus create a good growing atmosphere. Give a thorough watering with warm liquid manure where a good crop is being carried. Especially is it necessary to watch that pot plants do not become exhausted. The stopping and regulating of the growths in this and later houses must be attended to as required, and overcrowding guarded against. As a general guide stopping may be done about the fifth or sixth leaf joint, but extension wood may be allowed more freedom. Figs are generally grown, and rightly so, in a restricted root run, so a watchful eye must be kept as the days get warmer that the trees do not suffer from lack of moisture, or red spider will undoubtedly make its appearance.

H. Turner
(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Salsify.—Deep, sandy soil suits this vegetable best; it should never be grown on ground that has been recently manured or the roots will be forked and scraggy. It much resembles the Parsnip in this respect and is likely to thrive best on the site of the previous season's Celery trenches, when roots of good quality may be had. In most households this winter vegetable is highly prized.

Spinach.—A successional sowing should now be made; also make a sowing of Spinach Beet, as this perpetual Spinach is most accommodating and fine fresh leaves may be pulled throughout the season. It often fills a blank should the ordinary variety run to seed, owing to dry weather or other causes.

Broad Beans.—Continue to sow goodly quantities of the Longpod varieties in double lines 2½ft. apart, while any that may have been raised in boxes should now be planted out. Should the ground be cold or clayey, the addition of some old potting compost will encourage root action and quicken growth.

Early Cabbages.—Although not injured much by hard frost this winter, the autumn planted lot have had a severe test with wind storms and heavy rains. Should the weather be suitable, a sprinkling of sulphate of ammonia may be given now, afterwards loosening the soil and hoeing up.

Digging.—Unfortunately this work has been in arrears owing to the heavy rains recorded during March, the rainfall for that month being over 6ins. Where the soil is heavy this is naturally a hindrance both to the professional gardener and the amateur, but with the lengthening days and more sun-heat the soil dries more readily and allows digging and sowing to be proceeded with apace. Perhaps the most unusual thing recorded here regarding the weather has been the absence of snow this winter, only a very slight fall having occurred.

Plants Under Glass.

Begonias.—Tubers of these which were started in boxes some time ago will now be ready for a shift, so may be potted into suitable sized pots, according to the size and strength of the plants. A mixture of two parts of loam and one part of leaf-mould and sand suits them well.

Regal Pelargoniums.—Early batches of these should be kept clear of aphis by vaporising occasionally, while to obtain fine results give regular feedings of Icthemic or Clay's Fertilizer. Remove to greenhouse or conservatory as the plants come into bloom.

Pricking Off Seedlings.—This work will occupy a good deal of time just now, but careful handling will be repaid by good results. Do not crowd the seedlings in the boxes prepared for them, allow space for the proper development of each, and as growth advances transfer to cooler quarters and ventilate gradually, so that the tender seedlings suffer no severe check in the process of hardening off. Should the grower only have a cold frame at disposal for this purpose, it will be essential to harden off the seedlings gradually before transplanting. James McGrath
Gardener to Sir Henry H. Houldsworth, Bart.
Coodham, Kilmarnock.

CORRESPONDENCE

A FALLING OFF IN THE NUMBER OF DAFFODIL FLOWERS.

HAVE your readers observed a great falling off in the number of Daffodil flowers this year? The wild Daffodil planted in rough grass does vary from year to year, but this is a poor year. Horsfieldii and Golden Spur, which have not once failed to flower in rich abundance during the last fifteen or twenty years, have not one-fourth of the usual number. Oddly enough, Maximus, usually a shy flowerer, has rather more blooms than usual.—F. A. STURGE, *Coed Efa, near Wrexham.*

A PROLIFIC FLOWERING DWARF RHODODENDRON.

EXCEPT that the distinct Rhododendron illustrated originated as a chance seedling among a batch of alpine Rhododendrons in the nurseries of Messrs. Fisher, Son and Sibray, Limited, of Handsworth, the history of the plant is obscure. R. compactum multiflorum has been grown at Kew for upwards of twenty years. The name very well describes the habit of the plants and its floriferous character. It is comparatively slow growing for though of considerable age, the plants in the background are not more than about 30 inches high and 3 feet to 3½ feet in diameter. The flowers are a shade of buff with reddish markings in the base of the flowers. Increase by layering is best, though the four smaller plants in the foreground are grafted on R. ponticum.—A. O.

A CHANCE SEEDLING AMONG ALPINE RHODODENDRONS (R. COMPACTUM MULTIFLORUM).

HELLEBORES AS CUT FLOWERS.

MR. UPCHER mentions (THE GARDEN, page 158) that the beautiful flowers of Helleborus orientalis are good to float in bowls, and that when cut with long stalks they hang their heads and look miserable and dejected. I believe this applies to most of the Hellebores, except the Christmas Rose and perhaps H. caucasicus. In the *Journal of Botany*, 1916, page 338, I asked if someone would explain why Green Hellebore (H. viridis) droops and fades within an hour if put into water and kept in any ordinary room, but remains fresh for a week in a tin; and added that some specimens had kept tolerably fresh fourteen days in a tin. The late E. W. Hunnybun replied on page 22 the following year that for many years he grew this plant and many coloured hybrid Hellebores, and that they all acted in the way I described. He found he "could prevent the drooping and fading by cutting the stalks under water, splitting them up, and immediately placing them in water." He "attributed the drooping and fading to the transpiration being much more rapid than the absorption, owing to the current of water in the xylum of the vascular bundles being diminished by exposure of the bottom of the cut stem to the air. The balance of absorption and transpiration is further upset by the plant when cut being brought into the dry air of a room from the more or less saturated air out of doors." Mr. Hunnybun also pointed out that if cut flowers are immediately put into a tin box well filled with leaves their transpiration soon saturates the air and thus stops much transpiration in the cut flowers. I may add, *a propos* of Mr. Warner's very interesting note on the colour of spring flowers, that Christmas Rose flowers turn green after being fertilised, just as the white or pinkish blossoms of Ranunculus glacialis turn a deeper rose colour. The Purple Gromwell (Lithospermum purpureo-cœruleum), whose name is as appropriate as it is long, is an excellent example of the many Boraginaceous plants whose flower-buds are at first reddish and on opening turn a deep blue. The little Corn Gromwell (L. arvense), with flowers always white in this country, I have occasionally seen with bluish corollas in waste places in the Alps, owing to the intense light of those regions. It is also well known that there is a greater proportion of red, purple and blue flowers in the Alps, corresponding with a higher organisation than in the plains.—H. STUART THOMPSON.

IN THE GARDEN, April 2, page 158, Mr. A. H. Upcher evidently thinks that Lenten Rose (Helleborus orientalis) always hang their head when cut with long stalks. May I suggest that he tries cutting a slit right through the stalk—up and down—about half an inch from the end; if cut to the very end the stalk curls up. I always put two slits about an inch long, one through each side of the stalk, and I find the Lenten Roses stand erect and last for days.—E. M. G., *Co. Down.*

A WAY TO OVERCOME THE HOLLYHOCK DISEASE.

MAY a few words be said on the subject of the disease which is so troublesome with Hollyhocks—perhaps I ought to say Althæa rosea, as I see in Robinson's "English Flower Garden" they are put under this heading. Personally, I prefer the English name and cannot always agree with Mr. Robinson. Twenty years ago we grew fine Hollyhocks here, and then as years went on the disease appeared and finally became so bad that we had to give them up. We then began growing them again, and I noticed that the disease seemed only to affect those which were over three years old. This may mean that the tap roots got down to poor soil and so the plants were not properly nourished. There can be no doubt that the best way of overcoming most diseases is to encourage strong growth. It may be remembered that I wrote to THE GARDEN some time ago saying that I found liquid manure a certain cure for greenfly on Roses. I did not see my way to treat the Hollyhocks in the same way, but I made a rule that all old plants were to be dug up, and since this has been done we have been but little troubled with the disease.—THACKERAY TURNER.

THE FLOWERING OF THE STERNBERGIAS.

PERMIT me, as an old grower of the Sternbergias, to corroborate what Mr. Jenkins says regarding them (page 140). Most lovers of bulbous plants have been fascinated with the idea of having their golden Crocus-like blooms in autumn so as to associate them with such plants as the autumn Crocuses in the front of the border in grass and in the rock garden. As a rule, however, the disappointment has been great on account of the shyness of their flowering. Leaves were produced, but flowers were few, and it has been the general conclusion, especially in Northern gardens, that "the game is not worth the candle." I have put all the Sternbergias in cultivation through my hands and I can unhesitatingly agree with Mr. Jenkins in commending S. lutea angustifolia as the only one worth attempting in the ordinary garden of the British Isles. With S. lutea angustifolia even, one should give it special consideration, such as the sand bed suggested by Mr. Jenkins. My most satisfactory results were obtained in a very sandy soil to which had been added a liberal quantity of old mortar rubbish on a subsoil of sand and gravel and in full sun. Other species and forms gave no satisfaction after the first year even with this treatment. Our summers seem too cool for these Sternbergias in the open, and I fear most of us must content ourselves with S. lutea angustifolia. I had hoped that the grand S. macrantha would have proved as accommodating, but after the first year or two it did not condescend to bloom.—S. ARNOTT, *Dumfries.*

SUPPORTS FOR SWEET PEAS.

HAVING seen some letters lately regarding wire-netting for Sweet Peas, I should like to mention the plan we have adopted here with great success. The Peas are put out in a row, from pots, about the middle of March; an old Birch broom is sacrificed, and the twigs stuck among the little plants to help them to start. When they are established a double length of galvanised wire sheep-netting, 4ft. wide, is placed in position, one length on each side of the row of plants, and about a foot apart, securely fastened to strong stakes. When the Peas have nearly reached the top a second length is placed above, fastened to separate stakes (these are the long thin iron rods blacksmiths use) and overlapping the first length a few inches, so that they can be securely tied together all along. This makes a support nearly 8ft. high and is usually sufficient, though I have had to support further sometimes. I use a stepladder when cutting the flowers late in the season. The Peas arrange themselves delightfully on the wire and are a lovely sight; the wide mesh is no disfigurement. The wire is rolled up and stored in the loft when the season is over and lasts practically for ever. We also use this netting on walls to support climbers and wall-shrubs; it is more easily fixed and kept in order than single wires.—M. B. Mirehouse, *Angle, Pembroke.*

MINIATURE POPPIES FOR THE ROCK GARDEN.

THIS note applies to what are Lilliputian forms of the Iceland Poppy (Papaver alpinum) or are closely akin to it. They are miniatures of the utmost grace in foliage and flower and are ideal rock garden plants, though, like the Iceland Poppies, not always much more than biennials. The leaves are delightful in their formation and of a charming hue, and the flowers are little Minnie Warren forms of P. nudicaule in general appearance. They vary from white through shades of yellow to orange, and are exquisite in their texture and sheen. The plants are only a few inches high. There is a still more miniature form, called P. alpinum pyrenaicum, frequently listed as P. pyrenaicum. This also is of the highest beauty and as varied in hue as the others. A strain with fringed flowers is also in existence, but one's first delight in these has become chastened, and one can hardly say that they are to be cultivated in preference to the smooth-edged varieties. I like to sow this Poppy where it is to flower, and if sown in this way in light soil in a sunny place in April it will bloom the same year. The seeds must be sown very thinly, and the seedlings thinned out as soon as possible. If this is neglected the plants will not be nearly so fine and will go out of bloom more quickly.—S. Arnott.

THE DOUBLE FORMS OF PRIMULA VULGARIS.

AMID the wealth of the newer hardy Primulas the double varieties — white, yellow, lilac and crimson—of our common Primrose seem to be pretty much neglected, and yet they have a charm all their own. Methinks, however, that their comparative scarcity is to be accounted for not so much because of lack of appreciation of their intrinsic worth, but because in many gardens—the one under my own charge included—they have a habit of dying off unless special means are taken to maintain them in good health. Many years ago the late Mr. Richard Dean of Ealing was successful in getting up a big stock of the double crimson variety, and without warning or apparent cause he, within an incredibly short period, lost nearly his entire stock. On soils which they do not take to kindly the safe plan is to replant, annually or biennially, working in a proportion of yellow fibrous loam among the garden soil. The crimson variety seems more fastidious in the matter of soil than the other varieties. The doubles often fail where the bright-coloured single varieties luxuriate.—Charles Comfort.

A PRIMROSE FOR THE WATERSIDE

IN the rock garden at Kew at the foot of the Dripping Well is a fine batch of the beautiful Himalayan Primula rosea now flowering profusely. The rich carmine pink flowers are very effective and especially is this so when seen from a distance. As a waterside plant this Primula is indispensable; it is, however, equally as well at home on the rock garden or in the alpine house. It is perfectly hardy and thrives in almost any soil, but is most happy when planted in a rich loam.—G. H.

PRIMULA ROSEA BY A STREAM.

AN EXCELLENT PLANT FOR A SOUTH WALL.

OF the various Coronillas in cultivation, Coronilla glauca is undoubtedly the best if judged from the free-flowering standpoint. It is rarely out of bloom, and until the winter of 1916–17 a fine bush was to be seen in the gardens at Castleford, Chepstow. Unfortunately it is rather tender, but usually a suitable spot can be found such as a south wall or a sheltered corner near a greenhouse. In February I saw an example in full bloom, the rich yellow flowers showing to advantage above the glaucous foliage. It will succeed in almost any soil, as I have grown it equally as well in gravelly soil, and heavy loam. Propagation is effected by division in the spring, and cuttings of young wood will root at almost any time if given a little bottom heat. Shoots of a more woody nature will form roots during July and August if placed under a bell glass. Seeds are occasionally produced, and when procurable they may be sown as soon as ripe. C. Emerus is a very good plant for a wall, and we have a nice example growing at the base of a 9ft. wall with a north aspect.—B., *Chepstow.*

AN ATTRACTIVE DELPHINIUM.

THERE is no resisting the appeal of Delphinium Theodore. Few plants have the power of attraction that this lovely plant possesses, and running through a very large number of striking varieties, in my mind, I cannot recall any other which can be regarded as being on a level in the way of colouring with Theodore. To know this plant is to love it, for here upon its flat shining petals is the colouring of the most brilliant Gentian blue—not heavy, neither inclined to mauve or purple or violet as are so many of the leading modern Delphiniums but just that intense shining rich blue which must hold enthralled all who see this glorious flower *en masse* for the first time. In habit it is much after the style of Persimmon. The same erect, graceful habit, the same flat blossoms beautifully spaced out, the same freedom and continuity of blossom. I cannot compare it in colour with Persimmon, it is too brilliant, too decided in tone! If anything it has an even better constitution, and to readers in search of an ideal Delphinium, may I commend to them Theodore. —P. S. Hayward, *Great Clacton, Essex.*

FLORAL PICTURES.

IT is generally accepted that we are slaves to fashion, and this is nowhere more noticeable than in the cultivation and arrangement of flowers, many even of the greatest floricultural enthusiasts failing in originality. It is so easy to follow the beaten track. How rarely does one see flowers artistically arranged indoors? Instead of a picture one finds a heterogeneous mass of clashing colours, a lack of harmony. The ludicrous idea of floating flowers in a flat bowl has apparently been adopted by the world and his wife. The black bowl is effective, at times even beautiful, but its latest developments are nothing less than monstrosities. The secret of artistic decoration lies in selecting one's bowl or vase with due regard to the form and to the colour of one's flowers. As a rule, the elaborate centrepiece with its four corner supports is used year in and year out. Quality or intrinsic value are, however, of little importance. That a bowl is of cut glass matters little unless it be of the shape required—perhaps for a mass of Foxgloves or Canterbury Bells. A pink vase alone is often impossible, but it can be turned into a thing of beauty if filled with soft shades of purple. A brown earthenware casserole sounds crude, but even this is curiously beautiful when filled with Viola gracilis or Viola Bronze Kintore. The slender stems of Heuchera demand a slender vase. Daffodils and Narcissi in silver vases cannot compare with the same in common green earthenware. If the vessel is the framework, the foliage is the background of the picture, and few look for this beyond greenhouse and flower garden, thus missing the many treasures to be found in kitchen garden and hedgerow. Parsley leaves provide an effective substitute for the hothouse Fern, Asparagus for the so-called Asparagus Fern. Variegated Kale is an old favourite, and the autumn tints of Parsnip and Carrot are almost too well known to be mentioned. Simplicity and harmony are the ends to aim at, but these will not be obtained until a vase of flowers comes to be considered rather as a work of art than as an essential piece of furniture.—Sybil

THE COLOURS OF BACKGROUNDS AT FLOWER SHOWS

NOW that the season of shows is upon us the consideration of what is the best background against which to display our exhibit becomes to some a matter of serious consideration. The choice of colours (including black and white) is not a very wide one, except as regards the particular shade to be used, and those Siamese twins of surface and texture. In my own mind I associate black with Sutton's, and remember how well their group looked at the Royal Horticultural Society's Daffodil Show last April. I associate white with Engleheart and remember, too, how well his poeticus looked against their white background on the same occasion. But it must be mentioned that the black was velvet and the white a dull surfaced cotton sheet. One of the most dainty and delightful exhibits that it has been my good fortune to see was that of different varieties of Scabiosa caucasica staged by Messrs. Isaac House and Son at Shrewsbury last year. It had a white background; but charming as it was, I think, had cotton sheeting been used in the place of the colder-looking paper, it would have been even more lovely.

Besides black and white, the only two colours that come into practical politics are green and grey and all their various shades. One of the things I have always been going to do, but so far have never accomplished, is to put up a big exhibit of Tulips at Vincent Square. I have, however, experimented with various backgrounds. If the question of cost did not come in I am disposed to think billiard table cloth of a suitable shade suits the splendour of the flower better than anything, but what I finally settled upon, if the exhibit ever gets put up, was a sort of dull, smooth-surfaced thin felt or baize of a dove grey colour—almost what might be called a neutral tint, but somewhat warmer in tone. It is interesting to note that the "Répertoire de Couleurs" (Paris, 1905) has its patches of colour on a white ground, and that Ridgway's "Color Standards and Color Nomenclature" (Washington D. C., 1912) has a neutral grey. In a practical way the grey is the more satisfactory, but I am wondering if the substitution of a dull black would not be better still, as tending to bring out more clearly small differences of shade? I am led to ask the question after a conversation with my tailor about detecting small differences of shade in dark coloured sewing silk. It was a mistake, he said, for travellers to have their colour patches of silk on a white ground. The eye was blinded by the white glare for detecting fine distinctions, and by ocular demonstration he convinced me that nothing is so good as black. It was surprising how very dark shades of blue and green became quite distinct with dead black backgrounds, while with white it was pretty well six to one and half a dozen to the other. If the staging of a big show like that say, of the Sweet Pea Society were to be set out with black, the effect would be quite too funereal, and so I think the remedy would be worse than allowing matters to remain *in statu quo*; but for comparatively small individual displays there is much to be said for black, both when the object aimed at is the general effect of the whole exhibit, as in the case of Sutton's; and also when the bringing out of the differences of the various varieties is the end in view.

J. J.

RHODODENDRON N. N. SHERWOOD

AMONG the large number of hybrid Rhododendrons flowering in The Dell at Kew during the first half of April, the variety N. N. Sherwood (illustrated) is conspicuous. Robust and clean in growth the illustration gives a good idea of its free-blooming qualities and the well-set-up trusses of flowers. The colour is a glowing bright pink. The parents of N. N. Sherwood are the early flowering pinky white variety, Venus and Sebastopol. It was raised by Messrs. Fisher, Son and Sibray, Limited, of Handsworth Nurseries, Sheffield, about twenty years ago. A companion variety, Duchess of Portland, was raised by the same firm, and is illustrated in THE GARDEN, May 16, 1903, page 340, following an award of merit by the Royal Horticultural Society on April 21. Duchess of Portland is the result of a cross between Handsworth Early White pollinated with R. barbatum. There is evidence of the vigour of the latter parent in the foliage of the hybrid, though a tinge of pink may be seen in the opening flowers. As a garden plant Duchess of Portland is certainly one of the best pure white Rhododendrons grown.

THE APRIL-FLOWERING RHODODENDRON N. N. SHERWOOD.

The Treatment of Lupinus arboreus

IN his delightful article on Lupines, "J. H.," on page 136, refers to the Tree Lupine, Lupinus arboreus, and remarks that this is "too large for the ordinary border." This is true, so far, but by dint of hard cutting back after flowering the Tree Lupine can be kept a suitable size for a fairly large border. It is well known that these Tree Lupines sometimes fail without any apparent reason after having grown for a few years. Cutting them hard back not only keeps them to a reasonable size but appears to prolong their lives. If this is done annually, directly most of the flowers are over, new growths soon come and remove any apparent bareness which shows immediately after the cutting back is completed. The branches may be cut back to 1ft. or so from the main stem, and if done in good time, the fresh growths will soon appear and a few flowers may even be produced in autumn.

S. ARNOTT.

SALADS ALL THE YEAR

IN many gardens salad plants are available during every month, indeed, every week, throughout the year. A cultivator with experience, and with the aid of hot-bed material in sufficient quantity, frames and a forcing house, has not much difficulty in securing such plants when he requires them.

As the sun gains power, amateur cultivators, generally, may hasten the growth of salad plants considerably if they possess glass structures and means to create a little artificial heat, even if they have not had much practical experience in the work.

Lettuces.—The Cabbage varieties are the best for early use. In cases where a batch of plants were raised last September and wintered in a cold frame or a partly sheltered border, satisfactory progress is made directly the severe frosts have gone. When the thaw comes after each frost, the covering material must be gradually removed and full ventilation given at the first opportunity, to prevent loss through the damping-off of the plants at the soil level. In March the most forward plants will be ready for use. In the meantime, sow more seeds very thinly in a box or a bed in a cold frame to form a succession.

Radishes.—These are readily forced on a mild hot-bed or in a border, without the bottom heat, in a greenhouse if frosts can be excluded. A fairly rich soil, about 7 inches deep, made moderately firm, will be suitable. Sow the seeds thinly, about one inch apart, cover lightly and water through a fine rosed watering can. I do not know of a better variety than the French Breakfast. To form a succession, prepare a bed at the foot of a wall facing due south and sow seeds there, thinly. Even a narrow strip of ground, 9 inches wide, against the wall itself, will suffice to produce dozens of bunches if the length be reasonable.

Young Onions.—Onion seed is valuable and must not be wasted; it will not be waste, however, if a few seeds of some small bulbing varieties be sown thinly in boxes about 7 inches deep, filled with a rich compost and moderately firmed. These resultant plants may be subjected to a warm greenhouse temperature. In a short time they will be available for pulling and prove very welcome for salads.

Cucumbers.—The plants require heat, and cannot be very satisfactorily grown in a temperature lower than normal summer heat. So an early attempt at growing these much desired salad plants should not be made unless the necessary heat is available. In a too cold temperature the leaves turn yellow and the fruits fail to set and swell. Other conditions being favourable, however, provide a rich rooting medium on a mild hot bed, and surface dress with a light, rich compost, frequently, or as often as the roots appear on the surface.

Beet.—The young plants are not as tender as many cultivators suppose they are. True, a cold rooting medium is very inimical to their growth, so that, in general, the sowing of the seeds is mostly done in May, not earlier than the latter part of April. But where there is a nice depth of light soil at the foot of a wall or fence facing south, the amateur cultivator need not hesitate to sow seeds there about the middle of March. From such sowings the resultant roots are ready for use the third week in July and are much appreciated then in salads.

Tomatoes.—The earliest plants should be fruited in 9-inch flower pots placed in a warm position in a glass structure; they may be forced on with other miscellaneous plants that require a rather high temperature, as early fruits are chiefly desired, not exactly a heavy crop

Celery.—My plan of growing very early Celery for salads is, to prefer the early white varieties; to raise seedlings in a shallow pan placed on a mild hot-bed and finally plant them out in a deep soil so that the sticks can be easily blanched in sand between two or more boards placed on edge.

G. G.

How to Grow Mistletoe

The month of April is the time to start growing Mistletoe. The mode of procedure is very simple. Merely press the berry against the bark of the tree on which it is wished to grow it. The berry will burst and the seed inside will adhere to the bark as if stuck with seccotine. It is best to place it on the sunny side of the tree about 6ft. or 8ft. high. Do not grow it on young Apple trees, better on old trees not producing much or any fruit. It grows admirably on the Mountain Ash or Poplar, but is rare on the Pear and other fruit and forest trees. In a few weeks the little green plant appears and in a few years the growth is rapid. In foreign countries there is a red berried variety

Holywood, Co. Down. Walter Smyth.

A SYSTEM OF CROP ROTATION FOR THE KITCHEN GARDEN

A Definite Plan and its Advantages

THE question of rotation or repetition in vegetable growing is raised by "A. D. T." in his interesting article on page 89, and points are dealt with which concern those who have attempted to systemise this department of gardening.

After working a kitchen garden in a rather haphazard manner for a little time and suffering the consequent inconvenience, the writer devised and put into practice the following scheme, and has found that the carrying out of the work according to a set plan has been the means of avoiding difficulties that had previously occurred. Although it has proved quite satisfactory in practice, the scheme is not put forward as being a perfect one, as it may not suit all gardens. It may, however, be useful as a basis for planning rotation, and might be adapted to individual cases by making the alterations rendered necessary owing to special circumstances.

The essential feature is the division of the garden into four plots of approximately equal size and, if possible, of similar shape. Each of the four plots undergoes a complete series of changes every four years, and probably the simplest method will be to describe the history of one plot for its four-year period.

First Year.—The season starts with the ground in good condition for sowing and planting, as it has been rough-dug and exposed to frost throughout the winter. During the first year the plot is used for those vegetables of which a few rows are sufficient and which—with one exception—are harvested the same year as sown, *e.g.*, Broad Beans, Shallots, Onions, Peas, Dwarf and Runner Beans, Beet, Carrots and—the exception—Celery. The list may be extended, but should include, with the exception of the last named, only those items which can be cleared away before the end of the year. Further, sowing and planting should be done in such a manner that when the crops are cleared off the clearing proceeds steadily across the plot. This condition need not interfere with the correct spacing of tall-growing Peas and Beans; further, Onions and Shallots are kept together at one end for convenience in manuring. When the latter are harvested that portion of the ground that they occupied is dug and made ready to take the August-sown Cabbage early in October.

The rest of the plot is dug as the other crops are cleared off, and is then used for various purposes: as a seed-bed for July and August sowings of flowers and vegetables intended for subsequent transplanting, and also for anything that can be cleared by the following spring, but in no case later than the third week in May.

Second Year.—The next crop consists of those vegetables which stand through the winter. It is convenient to group these on the same plot in order to obviate going from one part of the garden to another when getting vegetables in bad weather. The list includes Brussels Sprouts, Kales, Savoys, Broccoli of sorts, Swedes, Leeks and Parsnips. The space from which the Celery has been cleared is at once sown with Parsnips, and these do well, as the soil has been left in good condition for them after the deep digging and heavy manuring required by Celery.

The spring Cabbage is in use while planting of the other greens is in progress, and will have been cleared by August or September, even if left to sprout in order to provide small Cabbages later in the season. The winter greens and other winter vegetables will be gradually used up during the spring of the third year.

Third Year.—The "crop" to follow is the poultry, and the birds may be moved on to the land at any time after the spring Cabbages have been cleared off. The whole of the plot is not available at first, but the semi-intensive system is followed, and during the autumn and winter the full outdoor run is not necessary, as on many days the weather is too bad for the birds to be allowed out of doors. In the spring the amount of ground available is increased as the season advances and the greens are used up. This is easily arranged by making the run of wire-netting mounted on movable frames.

The chicken house is built in sections, and is therefore easily movable. September is chosen as the time for moving. This is in good time for the birds to settle down for winter laying. If September (of the second year) is not convenient, the following March may be selected when the birds are in full lay, as a disturbance at this time is less likely to check egg production than at any other period of the laying season.

The writer finds the September move is to be preferred, as it provides a good opportunity for getting the pullets into their winter quarters without the trouble of a second move later on, and it also enables the winter's work to be put in hand. Time is more easily spared in September than in March.

If no separate corner is available for dumping and burning rubbish, this can be done in the poultry-run. The potash resulting from bonfires is available for the following crop and there is the additional advantage that the insect life which flourishes in the average rubbish-heap, to the detriment of the garden as a whole, is available for the birds. Moreover, the stems of the winter greens which form a considerable part of the spring bonfire are burnt on the spot.

During the summer of the third year a part of the ground is dug at regular intervals, so that the whole is completely turned over at least twice in the season. The soil is thus kept sweet for the poultry, the manure which it is receiving is thoroughly distributed, and the insects and worms brought to the surface are a welcome addition to the birds' food supply.

Fourth Year.—When the birds are moved in the autumn of the third year the ground is dug and left exposed to the frost during the winter. The spring finds it in excellent condition for the last crop, viz., Potatoes. When the crop is lifted in the autumn digging follows the lifting, and a second winter's exposure to frost leaves the ground ready for the first year of a second rotation.

Manuring.—It may be well to refer briefly to this question. When the Potatoes are to be planted the ground will be well supplied with poultry manure, and a little Wakeley's hop manure in the trenches at the time of planting should ensure a good crop. The vegetables mentioned under "first year" above may be classed in three groups: (a) those which are gross feeders, such as Onions; (b) those which require chiefly phosphates and potash, *e.g.*, Peas and Beans; (c) root crops. The last require no fresh manure, will should do well after the Potatoes, and are best

treated with liquid manure if required. The first group receives dressings of poultry manure from the cleaning of the fowl-house; the balance of this, after diverting to other parts of the garden any that may be required, goes to the Leeks and winter greens. Phosphates and potash are supplied as artificials; and where it is necessary to use lime, this is best done at the end of the "first" year, some few weeks before the greens are planted out

The litter for the fowls' scratching shed is renewed yearly, that which is removed being dug in to provide a foundation for the Celery trenches.

It may be considered that the labour entailed in moving birds more than counterbalances any advantages to be derived from this system. But such labour can be reduced considerably by providing the house with two exits and placing it in such a position that one gives access to the plot in use, the other to the next plot to be occupied. This means that the moving is only necessary every second year, as the new plot is brought into use by moving the wire netting and using the second exit. If a second house were provided and placed in a similar position with regard to the other two plots, house moving would be abolished. That not occupied by the birds would make a convenient store for Bean-sticks, Strawberry nets and similar material.

The running of poultry on each section of a kitchen garden in turn is of great benefit to the gardener, as, in addition to the systematic distribution of a valuable manure, the birds are of service in the destruction of insect life and of weeds on the ground they occupy. The writer's experience in clearing a piece of land which was overgrown with Jerusalem Artichokes that had run wild and was also infested with bell-wind is that the persistent trampling and pecking received from the birds discourages even the most fearsome of weeds.

Other advantages of the scheme are the four-year rotation, which considerably checks club-root and other diseases that lie in wait in the soil, and its flexibility. By the latter is meant the variation which may be made, if desired, in the proportions of the different vegetables grown. For example, a portion of the ground devoted to Potatoes could be used for other crops having a similar season, or early Potatoes could be grown on the same plot as the Peas. Again, the winter greens have the advantage of growing by themselves and not between rows of Potatoes. The latter plan hinders the early development of the Brassicas, which grow into small tough plants whose chief aim seems to be to get in the way while Potato digging is in progress. H. J. E.

OBITUARY

JAMES SENDALL DAVISON.

WESTWICK HOUSE GARDENS, Norfolk, and a Davison in charge have been linked together for nearly 100 years. James Davison, who held the position as head of these gardens, 1866–1891, passed away on April 2 in his eighty-third year. At Norfolk and Norwich Shows in the 'seventies and 'eighties he was a strong fighter for honours and generally a good winner. He did not specialise, but laid himself out to produce the best only of flowers, fruit and vegetables. The woods and forestry of this charming district owe much of their beauty to his oversight and care. He leaves several sons, of whom George, who succeeded him in the gardens, is the best known in the world of horticulture.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

DIERAMA (SPARAXIS) PULCHERRIMUM (Rev. J. W. R. B.).—There can be no mistake about the Wand-Flower illustrated in our issue of March 12. It is unlike any other plant of our acquaintance in graceful carriage and unusual flower beauty. It is found in Cape Colony—as witness your own Grahamstown experience—and elsewhere in the neighbouring regions. The more purely bulbous section of the race—the forms of D. tricolor and others—are much dwarfer and erect, the colours often of exceptional brilliancy. These are South African, too, and like many other bulbous plants in that and other warm countries, often bury themselves deeply in the ground. D. pulcherrimum in all its forms is impatient of removal, and resents drying off in the usually accepted sense of the term. When division of the clumps is necessary this should be done in spring with returning growth. As the clumps are rather slow to establish, seedling-raising should be resorted to in lieu of division. When the latter is attempted it were better that the units be potted in small pots—preferably at their sides—and so establish the plants before colonising them in garden or woodland. The subject of our note has the peculiarity of succeeding in deep sandy soils in hot positions and in quite moist situations too. In the latter beside a streamlet feeding a bog garden and where in winter the water supply was cut off it was quite a success. In the sun-kissed garden of the late Rev. Ewbank, Ryde, it was a success among shrubs in sandy soil. Thus with two strings to the cultivator's bow an opportunity is afforded for experiment. In any case the plant loves warmth, as witness its success in the Channel Islands and elsewhere. As to soil, we have had the greater success with it in rich vegetable soils, peat, leaf-soil, very old manure finely sifted, and loam equally with sand added. Generally it is of a rather voracious appetite and repays liberal fare. Should our correspondent again risk a deal with the white-flowered variety we advise the potting or boxing of the plants in a mixture of weathered cinder-ash and coconut fibre refuse in equal parts in place of potting in soil or planting in the open right away. The fibre mixture treatment with frame treatment for a time invariably succeeds; that of the soil is most frequently a failure.

TREES AND SHRUBS.

TRANSPLANTING ARAUCARIAS (Ardtara).—The only possible chance of being able to transplant the two trees of Araucaria imbricata, which are 12ft. high, successfully is to move them with a considerable mass of soil attached to the roots. As they appear to be young trees, they will stand as good a chance of recovery by moving them now as they would were they dug round, given new soil, and moved in twelve months' time. The balls of soil containing the roots should be tightly bound round with canvas before attempting to move the trees. The trunks must also be kept upright, for, if laid on their sides, the soil will almost certainly be separated from the roots.

THE MAINTENANCE OF YEW HEDGES (H. G. V. M., Hants).—It would appear as if the ground where the hedges are planted was not worked very well before the plants were inserted. It would be wise to open a trench along each side of the hedges and fork the soil back to the roots, work the bottom well and fill in with better soil if the present soil seems to be poor. Some good might be done by giving an application of fish manure dissolved in water or of liquid cow-manure, but if the ground has not been well worked it is not likely to do permanent good. As the hedges do not appear to be in a very vigorous condition it would be unwise to cut them back very severely at present, but they might be reduced in height by 9ins. or 12ins. This work could be done at once.

FRUIT GARDEN.

GALVANISED WIRE-NETTING AND FAILURE IN STRAWBERRY GROWING (L. F. B., Woking).—Our correspondent's experience of the result of rain dripping from galvanised wire on to Strawberry plants confirms the experience of many others growers, that it is most inimical to their successful growth, and we think it is so more or less to the growth of other fruit trees. Now is a good time to plant a Strawberry bed, if strong, well rooted plants (last year's runners) can be procured.

MISCELLANEOUS.

MOWING LAWNS (A. B. S., Cornwall).—Cut the grass as short as possible; there is no regulation height.

SOIL FOR EXAMINATION (G., Sussex).—The soil contains no lime and would, with the mixture of sand, be useful for Heaths, Azaleas and the like. It comes under the generic name of peaty soil, but is very different from Orchid peat or peat bog peat.

THE USE OF CESSPOOL REFUSE IN THE GARDEN (W. D., Sussex).—The contents of the cesspool should certainly be used on the garden, but it will not entirely take the place of farmyard manure, and it should, of course, not come into actual contact with the vegetables.

ALTERATION OF GROUND IN FRONT OF HOUSE (E. W., Hants).—If neither grass nor shrubs may be used and the gravel must be reduced, it would appear that there is nothing else to do but to asphalt the area. We should have imagined, however, that gravel might have answered, and weeding could be reduced to a minimum by dressing the gravel with weed-killer occasionally.

LIME SULPHUR WASH (Regular Reader, Salop).—So long as the flowers are still well in the bud state it is not too late to apply, but if expanded do not spray. In spraying let the spray be made as light and fine as possible. The mixture is made up as follows: Place 1lb. of quicklime in a vessel, add a little water and stir into a paste. Then add 1lb. of sulphur and a little water, and stir until the mixture boils. Let it stand for a day, stirring occasionally. Then add 5 gallons of water, strain, and it is ready for use.

WEED IN LAWN (C. L., Kent.)—The weed infesting the turf is Cerastium triviale. It is usually due to poorness of soil. The grass being very weak the Cerastium thrives in the poorest soils and rapidly spreads, killing the grass. Several dressings of lawn sand will usually set such matters right. As our correspondent's lawn is very badly affected it would be best to rake out a good proportion of the weed with a small-toothed rake before applying the sand. If this is not effective the only alternative is to dig up the lawn, well manure it and sow with lawn grass seeds. Most people forget that mowing a lawn year after year must impoverish the ground unless an occasional dressing of rich soil, manure, fertiliser or wood-ashes is given.

TRAINING AS A LADY GARDENER (O. Masters, Plymouth).—The only possible way of "acquiring a thorough knowledge of gardening in all its branches" is an intimate association with the work over a long period of years. There is no other way. The gardener, of necessity, must be associated daily with the plants he would grow, and even so, after many years he will find much that he has never got in touch with. Commercial and private gardening, for example, are so wholly different from each other, and the departments in each so varied, numerous and important that they are taken up separately as special subjects. Hence we find specialists for Orchids, Chrysanthemums, Shrubs, Hardy Plants, Carnations, &c.; men who, having given their whole attention to these subjects, are not usually well informed outside them. On the other hand the men who have "acquired a thorough knowledge of gardening in all its branches" are in the nature of a rarity.

THE USE OF EXPLOSIVES FOR BREAKING UP GROUND (A. T. M.).—It is not advisable to try to prepare your own explosives for breaking up land. Charges of gelignite or cheddite may be procured from The Nobles Explosive Company, Limited, Cannon Street House, London, E.C.4, or from the head office of the Company in Cavendish Square, with fuses and instructions for use In writing to the firm give the kind of soil to be opened, with the depth and condition of subsoil, for the charge varies according to the kind of soil in which it is used. The depth also varies according to the condition of the subsoil. In some cases it may be necessary to insert the charges 1½ft. deep, in others from 2ft. to 2½ft. deep, or deeper as required. The charge in any case must be well below the top of the subsoil. Very little disturbance of the upper soil occurs if the charges are inserted correctly, but the ground is fissured in all directions beneath the surface.

NAMES OF PLANTS.—Mrs. A., Co. Cork.—Garden seedling Narcissus; impossible to name.——P. A. S., Wrexham.—1, Seedling Narcissus, cannot name; 2, Scilla italica; 3, Narcissus minor; 4, Narcissus, probably cyclamineus hybrid; 5, Corydalis bulbosa; 6, Corydalis cava albiflora; 7, Scilla bifolia alba.——H. D., Surrey.—Erythronium californicum.——C. W., Taunton.—Lonicera thibetica.——K. A. R., Wimborne.—Spiræa arguta.——Kingfisher.—Cydonia japonica, var. alba. This may be propagated by cuttings or by layers. Cuttings of the current year's wood, with a heel attached, should be inserted in open ground in early autumn.

Two Day Flower Shows in London.—Attention is drawn to the change in the arrangements for the Fortnightly Meetings of the Royal Horticultural Society at Vincent Square. During the months of April, May and June the meetings will continue over a second day. On Tuesdays the Hall will be open to the public from 1 till 7, and on Wednesdays from 10 till 5.

A Beautiful Hybrid Magnolia.—Seldom have we seen Magnolias flowering in such great profusion as they are at the time of writing. To the list of beautiful spring-flowering Magnolias should be added M. Lennei, which flowers again in late summer. It is a hybrid resembling the better known M. Soulangeana—indeed, it is said to have had the same origin, viz., M. conspicua × obovata, or probably its variety, purpurea. The flowers (illustrated on the front cover) are richly coloured—a beautiful shade of rose purple outside and white inside.

THE GARDEN

No. 2579—Vol. LXXXV.]

NOTES OF THE WEEK

[April 23, 1921.

THE finest of flowering Crabs (Pyrus Scheideckeri) is at the time of writing flowering to perfection. If only this shrub were better known it would be seen in nine gardens out of ten. Although not over robust, it is wonderfully profuse in blossom and a glorious sight at its best, as may be gathered from the illustration on the front cover of this issue. It is a much branched tree or shrub of hybrid origin, and every branch is wreathed in blossom. The flowers are semi-double and pale rose, and they are borne two weeks later than the beautiful Pyrus floribunda or Japanese Crab, which is claimed as one of its parents. Young healthy trees produce shoots which are smothered with bloom from top to bottom, and these, when cut, are very useful for house decoration.

Hardy Fuchsias.—Perhaps the hardiest and best known sort is Riccartoni, and no shrubbery border ought to be without a few clumps of this delightful subject. Grown in company with Hydrangea arborea grandiflora it is most effective, and although in many districts it is cut down by frost each winter, it breaks away freely again and seems to grow stronger each season. In favoured districts, such as the Island of Arran, it attains the dimensions of a large shrub, while hedges of it are common.

Broccoli.—The principal sowing may now be made, but the seed must be sown thinly, and the soil should be in good condition to produce strong, healthy plants. They ought never to receive a check. A selection must be made so that a continual supply is maintained, and the White and Purple Sprouting varieties ought not to be forgotten. For autumn and early winter, Michaelmas White and Snow's Winter; main crop, Winter Mammoth and Leamington; late varieties, Late Queen, Model and June King.

A New Alpine Auricula.—The new Auricula Roxburgh, sent out by Mr. James Douglas, is a very fine addition to the alpine section. A casual glance gives one a good idea of the stout umbel and bold head of flowers that this variety is capable of carrying. Moreover, the healthy appearance of the foliage in particular bears evidence of a sound constitution. A closer inspection of the illustration reveals a certain amount of refinement in the flowers, which are of good size, nearly 2ins. across, shaded purple, and merging to blue at the margin, while the creamy white centre is remarkably well defined.

AURICULA ROXBURGH, A FINE ADDITION TO THE ALPINE SECTION.

Spring Foliage of Pieris formosa.—This beautiful subject commenced flowering this year towards the end of March, and lovely as the drooping clusters of white bells undoubtedly are, the shrub is even more striking when putting forth its new leaves. These appear in terminal tufts and are not unlike those of the commoner P. japonica in form and colour, but they are three or four times as large and very much more brilliant in tint. Both the new stems and the leaves are, when they first appear, a warm, glowing vermilion softened with chamois or golden-buff, and this striking tint, set-off, as it were, by the highly polished surface, prevails for many weeks and could hardly have a better background than that afforded by the dark, rather heavy, green of the old foliage. Hence if P. formosa fails to bring flower-buds to perfection it offers us a worthy compensation.

A Challenge Cup for Amateur Orchid Growers.—A number of the trade growers of Orchids, hoping to see more exhibits from amateur growers at Chelsea, have offered to the Council of the Royal Horticultural Society a Challenge Cup to the value of fifty guineas to be competed for at Chelsea by amateurs who employ not more than three gardeners in their Orchid houses, including the head-gardener. No group may exceed 60 sq. ft., and the award will be made especially for the following points: best cultivation, arrangement, quality and variety. Any exhibitor winning the Challenge Cup three times shall become the owner. A replica of this cup will be provided on each occasion when the cup is awarded, except when the cup is won outright. Medals will be awarded by the Council of the Royal Horticultural Society to the competitors placed second and third, providing their groups are of sufficient merit.

FORTHCOMING EVENTS

April 26.—Royal Horticultural Society's Fortnightly Meeting in conjunction with which will be held the Auricula and Primula Society's [illegible]

April 27.—Irish Gardeners' [illegible]

WHY ARE THERE SO MANY FAILURES WITH BORDER CARNATIONS?

BY JAMES DOUGLAS.

IN dealing with the management of the hardy Border Carnation it would be best if I stated clearly that this plant does well in any soil to be found in Great Britain. I desire particularly to point out that my own experience proves the successful development of this lovely garden favourite depends more upon the observance of the simplest elementary principles of gardening, backed by common-sense, than upon the nature or character of the soil in which it is their lot to be planted. How many intelligent people one hears observe: "Oh, we can't grow Carnations in Blankshire; the soil is far too heavy"! Another will say, "Oh, it's useless; we have tried to grow Carnations at Upcombe, but the soil's too light"! These assertions, and others like them, are so often heard that one becomes quite used to them. Both, however, are wrong; no soil is too heavy, and no soil too light, to grow Border Carnations to perfection, provided always that the plants are watered with love and fed with common-sense. It would be well for those who allege their soil is not good enough could they but see Carnations growing with no soil at all. There is a wonderful old château in Normandy, towering high over the Seine, above the town of Les Andelys, where the wild Carnation can be seen clinging to the old keep or donjon tower and forming great clusters of rosy red flowers with hardly a particle of soil to sustain life, yet it flourishes exceedingly, and its seed-pods, burst and scattered by the wind, distribute their contents down the face of the walls. Hundreds of young seedlings spring from the cracks in the hard flinty masonry, yet not a plant, not a leaf is affected by rust nor by any of the kindred ailments so common to its highly developed brother.

After many years of disappointment and success I am firmly convinced that nine-tenths of the ailments that affect modern Carnations are caused by ground that is *too rich*, not *too poor*—ground that is overcharged with nitrogen and phosphates, often introduced year by year into the soil through the medium of so-called fertilisers or plant foods; avoid these as you would avoid the plague! I have turned them down finally and irrevocably. If the ground needs a fertiliser I know of nothing to equal farmyard manure, soot and lime in proper season. Let the farmyard and the stable provide you with all that is necessary to rejuvenate the most worn-out border in the garden. For ten years we have used nothing at Edenside but decayed horse manure, our soil being on the heavy or clayey side; for soils on the light side endeavour to obtain cow manure, although horse manure will answer as well. In clayey soil we found great benefit from an occasional dressing of clean road sand, untainted by tar, and varied intermittently with a dressing of slacked lime. An ideal soil for Carnations, of course, is a calcareous or chalk soil; there is no doubt that *any* soil, heavy or light, naturally charged with carbonate of lime or dressed with calcium hydroxide will grow Carnations to perfection. I have found mortar rubble from old buildings is most beneficial to Carnations, either in the border or mixed with potting composts, for it usually contains in some degree carbonate of lime. I cannot emphasise too frequently the virtue of natural fertilisers; they are so cheap and effective. Snow, frost, sun, rain, fog—all are invaluable. Keep your ground turned up loosely with a fork in the autumn, and when digging do not break up the lumps of earth more than you can help; allow the winter frost and rain to do that for you. Nature is infinitely wiser than we are, and she does all things well. Much ground is spoiled by allowing it to remain undug during the winter.

If planting is to be done in the herbaceous borders care must be taken to arrange that no coarse-growing occupant be allowed to exclude that light and air so essential to the welfare of the plants, for it must be remembered that Carnations of every type are sunshine-loving plants and any attempt to grow them in a sunless position would be courting failure. I have seen remarkably fine displays of bloom in every position of the garden, excepting where the border was due north and entirely shaded from the sun. Provided always the plants get an hour or so of sun daily, I consider any of the following positions satisfactory: South, south-west, south-east, north-west and north-east, in order of preference. As we are now dealing with the cultivation of named or established varieties as distinct from seedlings, I would impress upon my readers to remember that it is the same with Carnations as it is with poultry and all livestock. It is a dreadfully extravagant method to obtain cheap, unhealthy plants; get the best, it is infinitely cheaper, for if after taking the trouble of preparing ground and the tending of your stock you find yourself faced with failures on account of plants being soft and unhealthy or otherwise unsatisfactory, you will regret not having obtained your plants from a sure source and from a stock that has been hardened by years of care and skill, thereby ensuring success.

There are many opinions as to the most suitable time for planting, some based on experience, some with due regard to locality, and some, I fear, due to faddism. There are some who advocate the autumn; others will only plant in the spring. Personally I do not care whether I plant in September or any month between then and May; of course, I refer to properly bred stock. Probably, weak stocks would be better housed through the winter and planted out in April. No matter where the locality I invariably advise the autumn, if possible; and if not, then spring may be regarded as perfectly satisfactory. The only difference, as it appeals to me, is that autumn planted stock has time to root and make more and bigger side-growths than stock planted in the spring. Having prepared the ground and obtained the stock, plant firmly at least 14ins. apart, especially if it is intended to allow the plants to remain for a second or third year undisturbed—a method now much in practice with many people, for the hardy Border Carnation is a true perennial and gains immensely by being treated as such. I have seen as many as 500 blooms and buds on one two year old plant. When planting be sure to press the ground all round, then plant firmly with the hands; if the soil is at all dry an immediate watering will be beneficial, enabling the fresh planted layers to "take hold." As soon as the first weed seedling appears, thoroughly stir the ground with the Dutch hoe to kill all weeds and to aerate the soil.

THE PINK-FLOWERED FORM OF RHODODENDRON NUDIFLORUM.

A Parent of Present-Day Azaleas

RHODODENDRON NUDIFLORUM (AZALEA NUDIFLORA)

THE introduction of so many hybrid Azaleas has rather put into the background the value and beauty of the species. One of the most important of these is Azalea nudiflora, a native of Eastern North America, which is said to have been first introduced to Britain by Mr. Peter Collinson in 1734. It is readily raised from seeds, and flowers when about 1ft. or rather more in height, but ultimately becomes a wide-spreading deciduous bush 6ft. to 7ft. or more in height. The flowers of the spray illustrated were pink, though in a wild state the blossoms are stated to vary, and include rosy red and purplish shades. A. nudiflora is figured in one of the early volumes of the *Botanical Magazine*, tab. 180, and is said to have been largely used by the hybridist in the pro-

A Beautiful Spring-Flowering Shrub

(THE SNOWY MESPILUS)

The petals are now falling fast from the white flowers of the Snowy Mespilus. In common with other trees of the Plum and Cherry family, the Snowy Mespilus has this year flowered with remarkable profusion. So freely does it grow, apparently wild, in some parts of the country, that it is regarded as indigenous. It is very common for instance in the woods around Bagshot, Surrey, and for a few weeks past it has been a common sight to see children in the lanes with armfuls of flowering sprays of Snowy Mespilus and yellow flowering Brooms. The Snowy Mespilus makes a low tree from 10ft. to 20ft. in height. It is not in the least particular in regard to soil, being quite at home in the dry sandy hillsides and in boggy peat places in the lowland. It is common on the outskirts of Pine woods and its profusion of white flowers are seen from afar against the dark background of Conifers.

Although a familiar object of our countryside, it may be an estray from nurseries and gardens. Native of the mountains of Central and Southern Europe, it has been in cultivation for over two hundred years, though its date of introduction is unrecorded. The flowers are followed by small fruits, dark purple when ripe and about the size of Black Currants. These are palatable to birds and the seeds are doubtless distributed by their agency. The Snowy Mespilus should find a place in every garden; it is graceful in foliage, beautiful in flower and fairly compact in habit. The smaller flowered Amelanchier canadensis, from 20ft. to 30ft. high, is more common in gardens and is often referred to as Snowy Mespilus, though it has, at least, three common names, viz., Service Berry, June Berry or Grape Pear. Despite its popular names, the fruits, in this country at all events, are about as dry and tasteless as the fruits of the common Hawthorn, but it is one of the most beautiful of spring flowering shrubs. H. C.

THE SNOWY MESPILUS.

AMELANCHIER CANADENSIS

For planting in half-wild woodland or some such region as the joining of garden and copse there is nothing prettier than this little tree. In growth it is singularly graceful, and late in April or in early May it is covered with its pretty white bloom. The foliage is also neat and attractive, and takes a fine colour in autumn. Many years ago it was planted in a wood in south-west Surrey, and now it has spread for a mile or two—no doubt carried by birds. It is pleasant to come upon it in neighbouring rough woodland, apparently quite wild and certainly happily acclimatised. G. J.

THE SNOWY MESPILUS IN WOODLAND.

Water! Water! Water!

Water is now the most Urgent Requirement of the Garden.

Never mind what your gardener, your neighbour or your dearest friend tells you, it is water that your garden wants most at the moment. All the buds, leaves and flowers for this season are rolled up in the plant and all of them, or most of them will wilt and die off prematurely without water, which constitutes ninety-odd per cent. of vegetable life. Never mind what work is most urgent, it can wait. Get the hose or the water can and keep every available hand at the pumps just as if your garden was a leaking ship at sea. Indeed, it is just as serious for, unless the garden has water, there will be a sorry tale to tell, not only this year, but next year too. The wall fruit will want it first. I can hear the gardener's growl of: "Who ever heard of watering fruit trees in bloom." Take no notice of him or his kind. This is not the time to listen to protests, the emergency is too dire. It is essential to water thoroughly, to soak the soil to a *great* depth, so as soon as the surface begins to flood pass on to the next subject and then go back to the first. Repeat this several times. Next treat the fruit trees, especially if they are out in bloom. Then the Rhododendrons, thirsty subjects, and now the Irises and so on; keep at it. Let the rake follow all the watering both the same evening and the following morning. This raking of the soil surface is essential to prevent evaporation from the soil and acts in this respect better than any mulch. Fruit trees in bloom thus treated ensure a full crop. C. A. Jardine.

Annuals that can be Sown in the Rock Garden during May

During the spring of 1920 when laying out a new garden, part of which was a rock garden, I was at a loss when it was completed (it being the end of May by then) of how to brighten it up during the summer months, when I hit upon the idea of annuals. These I sowed in irregular patches, choosing mostly the dwarf varieties, which, when in bloom, gave a show far beyond what one could expect from alpines in the rock garden; they continued to bloom right on until the end of October. The following are a few of the varieties most suitable for this purpose: Alyssum minimum, Asperula setosa, Bartonia, Calandrinia, Calliopsis nana, Cynoglossum linifolium, Gypsophila elegans, Ionopsidium acaule, Leptosiphon hybridis, Limnanthes Douglassii, Linaria reticulata, Nemesia Suttonii, Nasturtium Liliput, Phacelia campanularia, Saponaria calabrica and Sedum cœruleum.

Forfarshire. G. S. London.

THE LONDON DAFFODIL SHOW

Flowers that Merit Special Attention.

(*Continued from page* 191.)

MY previous notes on the London Daffodil Show left a good deal unsaid. The list of notable flowers was not concluded, and, with the exception of the large pink trumpeted Leedsii on Barr's stand, no notice whatever was taken of the large trade groups and their contents.

This list of flowers is taken entirely from the competitive section of the Show, and, for what my judgment is worth, they are written about from a "Show" point of view. I dwell upon this because a very high official of the Royal Horticultural Society told me that he considered all the flowers ought to be judged from a *garden* point of view. He, of course, is quite entitled to hold such an opinion, but I think that if judges were appointed who only looked at the blooms from a garden standpoint the managers of the Show would be snowed under with letters of protest, and the judging would have to be done all over again. Naturally, there will be varieties which are excellent from both standpoints. All I want to say is that the two points of view are by no means always synonymous.

So, continuing the list, I mention Silver Bell, which appeared in two of Mr. W. Welchman's competitive exhibits. It is a white trumpet variety, which in its general appearance reminds one of Mrs. Robert Sydenham. The Donard Nursery Company had quite a number of excellent flowers in one class or another. Tenedos, which easily carried off the first prize in the single bloom Giant Leedsii class, I consider one of the very best blooms in the whole Show. It is very large, having a perianth 4¾ins. across. The segments are pointed, but overlap well towards their base. The cup is well proportioned and of a pale primrose colour. I liked it very much, and I found everyone to whom I pointed it out shared my opinion. Somewhere I saw good examples of the beautiful pale bicolor trumpet Moira O'Neil, which I remember so well from last year. The Donard Nursery Company had it in their trade exhibit and, I think, in their competitive exhibit of twelve trumpets. A second introduction has only confirmed my good opinion of its merits. I also noted in their twelve Lady Primrose, another good show pale bicolor trumpet with a grand, smooth surfaced overlapping perianth which measured 4½ins. from tip to tip. For a bit of deep yellow, nothing in the Hall came up to their Prospector. This striking variety was raised by Engleheart, and although it is not a show bloom of the highest quality, it would make a welcome change from paler yellows in a trumpet class. It has a bold-looking trumpet with broad flange; a small, almost out of proportion twisted perianth, which only measures 3¼ins. in diameter. If it has the constitution of an Emperor, Prospector will soon justify its name and find some Treasury notes for its owner. Mr. Chapman had a very pleasing poet in the poeticus class, named Minuet. Poets are very much alike when you have divided the all red from the red and yellow eyes and the round from the pointed perianth. This particular variety has a round perianth with very wide segments and a deep toned red and yellow eye. Mr. W. F. M. Copeland pinned his faith to Mary Copeland in the single bloom double class. It is not a new variety, but I have not so far seen its superior. The beautiful symmetry of the whole flower and the little tongues, like as of fire, popping up here and there in the white segments of the much augmented perianth are very effective. Mr. Copeland also had one of those curious coloured flowers like Jeanette, which he labelled "What is it?" I think I told him that its colour—which, of course, was the cause of the question—might be described as "neither flesh, fowl, nor good red herring." Enez, which he exhibited in his group of seedlings, is another of these strange coloured flowers. Its colour stood it in good stead and gained it an award of merit. As a good trumpet variety of a medium yellow I must mention Dr. Lower's Clarion. It is quite a good thing. Ah, but what a pity it is that so many beautiful flowers have to be looked at when they have only numbers on their identification plates. It would be so much easier for the reporter, and so much more interesting to the reader, if the wholesome custom of infant baptism were a law in the Daffodil world. There were some grand flowers in Messrs. Welchman's, Williams' and Lower's twelves for the Engleheart Cup.

THIS VARIETY, LADY MOORE, HAS A BROAD RED BAND AND WHITE PERIANTH.

WHITE EMPEROR: A VARIETY WITH A FUTURE.

The trade exhibits were on the whole distinctly good, inasmuch as the individual flowers in them were of good quality and nicely arranged. I cannot say, however, that I care for fantastic arrangements in these groups, and I do think in a two days' show the flowers ought to be sufficiently fresh to stand a second day. I think with one exception every group contained a larger or smaller proportion of seedlings; that is to say, of very new varieties. The following list contains for the most part old varieties. It was made when I took a grand tour round the various exhibits on the morning of the second day: Messrs. Barr and Sons, the centre vase of the Pink Leedsii, raised by the late Mrs. Backhouse, and Ardis, a good Jonquil hybrid; Messrs. Sutton and Sons, Lady Margaret Boscawen, Fairy Queen and Bernardino; Messrs. R. H. Bath, Great Warley, Black Prince and Harold Finn; The Anglesey Bulb Growers' Association, Incognita, Donax (distinguished by its pretty red cup and lovely yellow perianth) and Colonel Cotton (a pale yellow trumpet); Messrs. Ryders, Lucifer and Evangeline; Mr. W. F. M. Copeland, Mary Copeland and Irene Copeland; Messrs. J. R. Pearson and Sons, Countess of Southesk (a Leedsii Frank Miles very

lovely as a cut flower), Firetail and Norah Pearson; The Donard Nursery Company, White Emperor, Harvest Moon and Evelyn Mellish; Messrs. Cartwright and Goodwin, Ruby and Loch Fyne. I must say a last word for two varieties which were to be seen in several places in good condition—Lady Moore, a most striking incomparabilis with a broad red band round the top of the cup and a white perianth; and Mrs. Robert Sydenham, still one of the best whites when well grown. What a difference cultivation makes! I measured an amateur's flower and it was 3¼ins. in diameter, whereas the examples staged by the Donard Nursery Company were, most of them, a good 4ins. I was glad, too, to see the shapely little Eoster still in the land of the living.

On the recommendation of the Narcissus Committee the council of the Royal Horticultural Society has awarded the Barr Memorial Cup for 1921, to Mr. Alexander M. Wilson, of the Moor, Presteign, Radnor. This Cup is awarded every year to anyone who, in the opinion of the Committee, has done good work of some kind on Daffodils.

The Engleheart Challenge Cup was awarded to Dr. N. Y. Lower, of St. David's, Presteign, Radnor, at the Royal Horticultural Society's Daffodil Meeting on April 5th, for the best twelve varieties of seedling and new Daffodils not in commerce. This is the second time in successive years that this cup has been won by Dr. Lower. Joseph Jacob.

An Old Favourite in New Clothes

Thirteen Weeks of Bloom

THERE is a triple alliance in the modern Antirrhinum between the three "c's" charm, colour and continuity, and it is fast becoming recognised as *the plant for every garden*. The old types and varieties that grew in grandmother's garden possessed charm. Did we not as children love to pinch the blooms to make them open their mouths? Did we not wonder how those plants got on the top of the old garden wall, and with only the crumbling mortar in the crevices to root in, how they were able to thrive and bloom all the summer long? The charm of the Antirrhinum is in its old associations as well as its beauty. But its colours are to-day something undreamt of in the days of long ago. All those dazzling and glorious shades of orange, flame and vermilion which we find in such varieties as Afterglow, Beacon, Torchlight and Bonfire are modern achievements. We never had such clean, clear pinks as we have now in Fascination, Esme, Wild Rose or roseum superbum. Purity is a real white which shows no trace of yellow even on the nose; while Golden Gem, Golden Queen and Canary Bird are yellows of pure rich tone. No richer colour is needed than the velvety, almost black and crimson of Black Prince, and between these outstanding colours we have glorious bright-hued flowers and delicately tinted and shaded flowers to please all tastes. As to continuity, the Antirrhinum is almost without parallel. Plants will bloom for twelve or thirteen weeks if one will but remove faded flower-spikes before seed forms. If a bed is planted with autumn-sown and spring-sown plants intermixed, the former will start to bloom by the beginning of June. The spring-sown will be in bloom in July. By the end of July the autumn-sown may be cut back and will scarcely be missed. They will then break from September right on to severe November frosts.

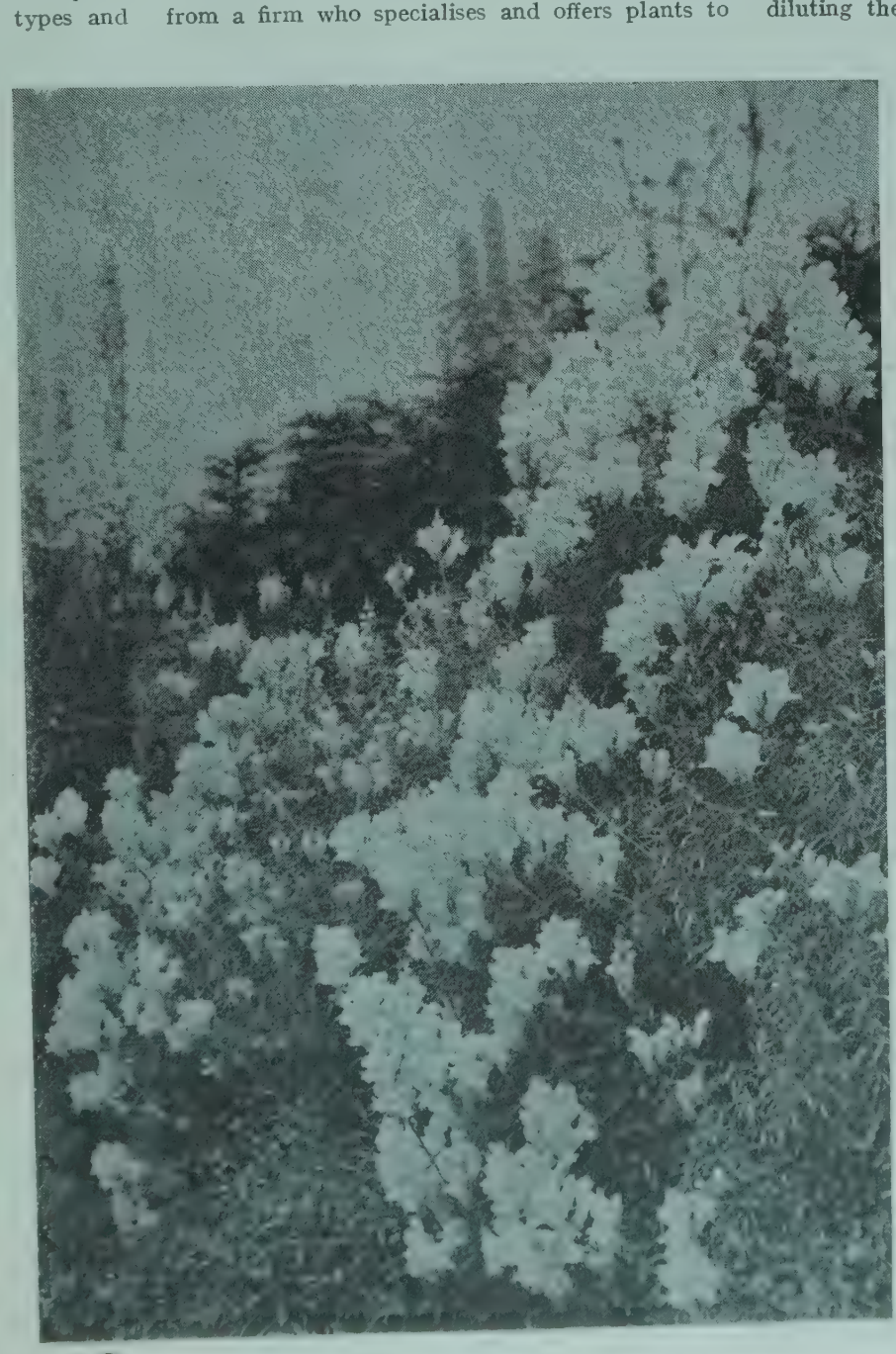
April is the month to plant for best results. Plants of a really good stock should be secured from a firm who specialises and offers plants to name. One need not be too particular in regard to soil or situation, for it is one of the virtues of the Antirrhinum that it will thrive almost anywhere. Do not over-manure the soil, but leave feeding until flowering has commenced.

One thing is essential to really good results, viz., firm planting. Antirrhinums like deeply dug soil which facilitates good drainage, but they do not like a loose, spongy soil, and the more firmly the ground is trodden around their roots the better. In a loose soil the plants will make only soft, sappy growth, but in firm and even hard soil they will make short-jointed, hard stems clothed with small, hard leaves, and from such plants the best flower-spikes are produced.

Feeding may be done by top-dressing with a good fertiliser or by application of liquid manure. In the former case some consideration should be given to the character of the soil when making a choice of fertiliser. If the soil has long been cultivated and is consequently replete with humus, a fertiliser that has a high percentage of chemical phosphates and potash should be used. If the soil is light and sandy, an organic manure such as Abunda or Multiple will be most suitable; while for stiff clay Hop manure is very good. Liquid manure may be made in the ordinary way by soaking a bag of cow manure, sheep manure or fowl manure in a tank or barrel of water and diluting the liquor until it is of a light brown colour. If the ground is very dry, it should first be well soaked with clear water, the liquid manure being run between the plants an hour or two later.

With such culture the taller-growing varieties will need staking, the growths being loosely looped to the stakes with strands of raffia. When flowers are to be cut for exhibition or for decoration, they should be cut either early in the morning or late in the evening, and placed for an hour or two in water. They will travel best if placed in long shallow boxes lined with tissue paper. If carried upright in water, vibration during a journey causes many of the blooms to drop.

The Antirrhinum is a plant of sturdy constitution, and is singularly free from destructive diseases. Sometimes greenfly and caterpillars infest the plants, but timely syringing with a good insecticide will keep such troubles at a safe distance. There are few gardens in towns or country districts where a bed or border of Antirrhinums would not be a great feature, and if even a dozen plants could be planted in all the front gardens one sees left in a drab and dreary condition the aggregate effect would be to make our highways and byways brighter and more cheery, and the whole country would wear a new aspect. A. J. Macself.



SNAPDRAGONS CLOTHING A DRY WALL.
For continuity of bloom the Snapdragon is almost unrivalled

Salsify and Scorzonera.—Seeds of these two winter roots may be sown now in drills drawn a foot or 15ins. apart where the crop is to remain, afterwards thinning the plants to 8ins. or 9ins. apart

IMPROVING VILLAGE GARDENS

The Wonderful Success that has been Achieved at Old Warden, Bedfordshire.

ONE reads much in these days of garden villages and garden cities and of their superiority over congested urban and suburban areas. Serried lines of more or less hideous structures are taboo, the monotonous regularity of fore-courts, with the inevitable Privet hedges, is conspicuous by its absence, and the very sound of the term backyard is anathema. There is a delightful openness which gives fresh air and sunshine a chance to assist in the maintenance of good health. There are trees, birds and flowers to charm by their varied beauty. There are expanses of green turf to soften harder tones of colour, to tempt the passing generation to repose, the present generation to relaxation, and the coming generation to sport. My story is not of such as these, but of a village of gardens, accepting the word "garden" to mean a place of beauty and utility too.

The beautiful villages of England are well known to wayfarers. They are scattered throughout our land, each county yielding its quota and each claiming that *its* beautiful village is the *most beautiful* village of them all. Bedfordshire's beautiful village is Old Warden, four miles from Biggleswade and eight miles from the county town. The trees, the grass, the cottages, all alike are delightful, and visitors flock in thousands to see and to admire. Old Warden has been famous for many years for its attractive features, but its proud claim to be a village of gardens is not of such long standing, neither is it recognised as widely as it ought to be.

We see flowers in glorious profusion at Old Warden, and we see magnificent crops of vegetables in direct association with them. Here there are gardens of vegetables, gardens of vegetables and fruits, and gardens of vegetables, fruits and flowers, but there is no garden of flowers alone. Is there another of England's beautiful villages which can substantitate such a claim? Dare one venture to say that in this respect Old Warden is unique?

To know how this exceptional, if not unique, state of affairs has been brought about will be interesting to readers. The late Colonel Frank Shuttleworth, of Old Warden, was intensely proud of his village and its amenities. He was always ready to encourage efforts directed towards increasing its attractiveness. Any suggestion, however trivial at first sound, which might go to improvement, was given careful consideration. Beauty, more beauty, still more beauty, Colonel Shuttleworth could not be satiated with it.

Then came the happy thought. Old Warden had achieved renown among the beautiful villages of England—Why should it not achieve fame for the excellence of its utilitarian gardens? The head-gardener at the Park, Mr. W. C. Modral, and I were deputed to discuss the matter, formulate a scheme and submit it for consideration.

There are many villages in which prizes are offered for the best kept and cropped gardens, and they are generally organised by the local Gardening Society. The prizes are usually three or four in number and of fixed values. For example, the first may be 15s., the second 10s., the third 7s. 6d., and the fourth 5s., a total of £1 17s. 6d. These competitions undoubtedly do good and might well be extended, but they are apt to lose interest with the efflux of time. Experience shows that John Jones is invariably first—he has more leisure, a more amenable soil, access to better manure, fewer overhanging trees and other favouring points; Harry Parsons is always second for similar reasons in modified degree; while Arthur Clarke secures a lien on third position, and so on. The unsuccessful ones lose heart and the contest drops out or proceeds in a desultory, uninteresting fashion. "Poor sportsmanship," some may say, but it is human nature, nevertheless. The man who tries is deserving of admiration, but when repeated effort fails he cannot be blamed for ceasing to try.

It was quickly decided that this would not do for Colonel Shuttleworth and Old Warden. The scheme once launched must be so simple that it would attract interest and so equitable that the interest engendered would be maintained for ever and a day.

Eventually a plan was chosen which necessitated judging by marks or points for each crop grown, and the scale was graduated with a view to giving the most marks to the most useful vegetables and the fewest to the least important crops. As instances, Potatoes are the most important of garden food crops, and they, therefore, head the list; Onions, Peas, Beans of sorts, Beetroots, Carrots, Parsnips, Vegetable Marrows and so on follow in gradually falling marks until Herbs are reached, of which there must be four kinds in good condition to earn the maximum of four marks. The principle aimed at was to encourage the cultivation of the best foods for the family, and to place the small garden, as far as possible, on an equality with the large one, since the marks were to be given for quality strictly and not for bulk simply. Further, 20 marks were allocated for orderly work, system in cropping and cleanliness. The highest possible score was 170, and it was decided that the prizes should be at the rate of 1d. a mark for each competitor who scored 70. Thus 133 marks represented 11s. 1d.; 129, 10s. 9d.; 80, 6s. 8d.; 70, 5s. 10d., the last being the lowest to receive a reward. This was proposed as direct encouragement in endeavour, and to show the precise relative merits of the gardens, which awards of fixed values can never do when a difference in excellence of one or two marks is expressed in a difference of 5s. in the two awards. Colonel Shuttleworth approved the proposals and undertook to provide the prizes.

In 1903 the competition was sent forth on a career which has been an unqualified success. Simple rules were drafted, a table naming the vegetables and showing the maximum marks for each was compiled, and it was announced that the judging would be done in July; the whole was posted on the village notice board. (The exact date of inspection was not stated, neither has it been advertised in subsequent years.) There was no question of entries or entry fees; every garden in the village was to be inspected. With some slight changes in crops and values the rules of 1903 have been maintained without a break, except during the war years of 1915, 1916 and 1917, to the present time, in the earlier years by Colonel Shuttleworth, and in the later ones by Mrs. Campbell, with a success which is nothing short of remarkable, as the figures below prove.

Year.	*Standard.*	*Total Marks.*	*Cash Value.*
1903	70	1,066	4 8 10
1904	70	1,216	5 1 4
1905	70	2,048	8 10 8
1906	80	2,420	10 1 8
1907	90	2,785	11 12 1
1908	90	3,032	12 12 8
1909	100	3,334	13 17 10
1910	100	3,095	12 17 11
1911	100	3,406	14 3 10
1912	110	4,232	17 12 8
1913	100	3,258	13 11 6
1914	100	3,475	14 9 7
1918	80	3,654	15 4 6
1919	90	3,473	14 9 5
1920	100	3,962	16 10 2

In connection with this tabulated record of the competition from its inception onwards to the present year it may be well to mention that there are about forty cottage gardens to be visited. There have been, of course, changes of tenants, and occasionally, before the war, there were empty cottages, but for all practical purposes the gardens which were judged in July

ONE OF THE MANY PLEASING VIEWS IN THE VILLAGE.

are those which were judged in the corresponding month of 1903. It may be well to note, too, as it has some bearing on the results, that it is a rule of the Old Warden estate that the garden of a cottage which is "in hand" shall not be allowed to become a wilderness of weeds, but shall be cultivated by the head-gardener.

Allowing for the lapse of three years during the war Old Warden has had, as the table shows, fifteen competitions in which no fewer than 44,456 marks have been recorded in favour of the best cultivators, and the money divided among them amounts to £185 4s. 8d.

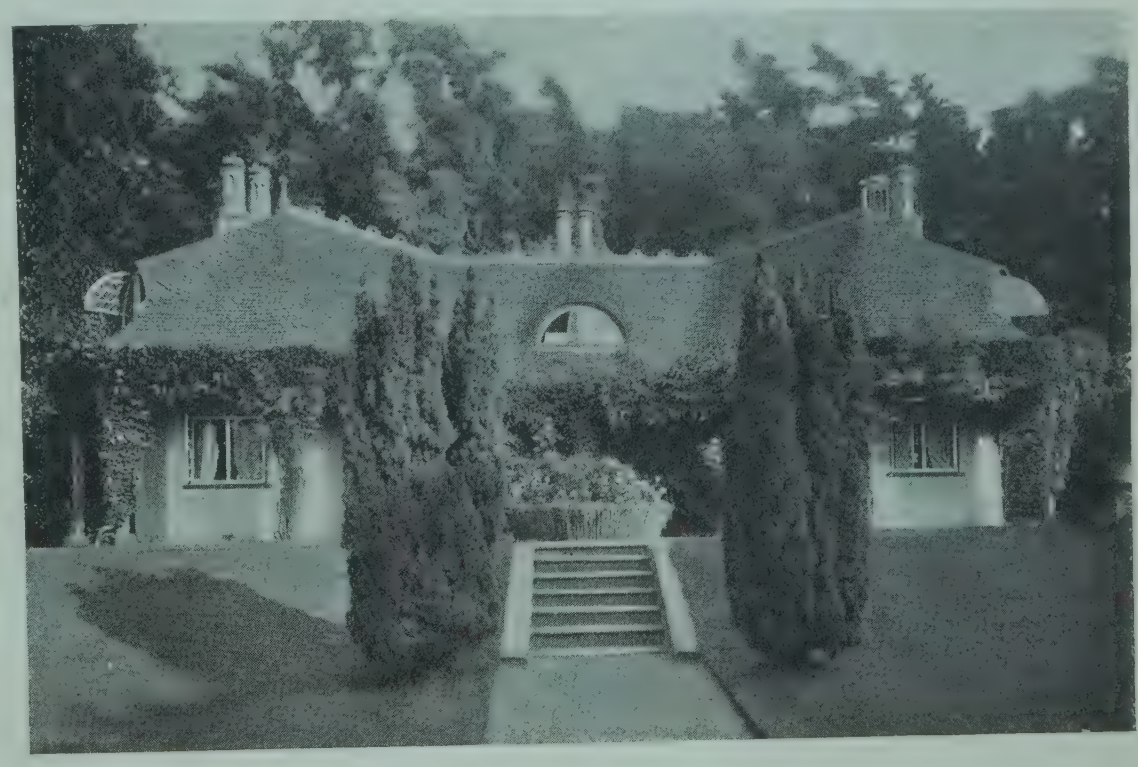
What has the late Colonel Shuttleworth's encouragement done for the gardens of Old Warden? Briefly, it has improved them well nigh out of recognition. It was my lot to assist in the organisation, and I have been the adjudicator throughout, with the exception of one year when indisposition served me a shabby trick. My substitute worked on the established basis, so the continuity of the competition was not disturbed.

If we were to compare the first year, 1903, with the last, 1920, we should say that the productiveness of the gardens had been more than trebled, since the former showed a record of 1,066 marks and the latter a record of 3,962 marks. This, however, would not be fair. At the outset the gardens were not cultivated on systematic lines, and the men were not accustomed to competitions; now the system is almost perfection and the men are conversant with every crucial point. Let us, therefore, divide the period into cycles of five years and we shall see that 1903–1907 gives us 9,535 marks; 1908–1912, 17,099 marks; and 1913, 1914, 1918–1920, 17,822 marks. The gardens have, then, nearly doubled in value of food production. Flowers had no material influence at the outset; they had no influence last year. The original idea was to develop the food resources of the soil and the maximum for all flowers in any one garden was fixed at 10 marks; this has never been varied, except that in the war year of 1918 no recognition was given to flowers.

With the outbreak of hostilities came an insistent call for the production of more food at home—it was urged that the cottage gardens and allotments of England were not yielding the quantity of food that they would yield under superior cultivation and management. Colonel Shuttleworth realised this in 1903 and encouraged his cottagers to prove it, which they have done by nearly doubling the value of the produce of their gardens in ten years. And the standard has been maintained ever since.

Have the gardens of Old Warden reached the limit of productiveness? A comparison of the figures of the second and third cycles indicates finality. The difference between the first and second cycles in marks is, roundly, 8,000; the difference between the second and third cycles is, roundly again, 800. It may be argued, therefore, that there is no room for further improvement. Is this actually the case? I, personally, do not think so. The winner in 1903, James Wiltshire, is the winner to-day, but his margin is narrowing—he has led by as many as thirty marks, and as few as four marks. He is a grand old gardener who grows everything well, but his garden has its limitations, a fact which he fully realises. Other competitors see the possibilities of their gardens but have not yet reached them. They are creeping up, and the near future will see a new champion who, in his turn, will be deposed—assuredly he will not enjoy as long a reign of supremacy as has James Wiltshire. Mrs. Campbell intends to maintain the competition, and I venture to predict that at the end of the fourth cycle the value of the produce from the cottage gardens of Old Warden will be found to be more than double that which would have been manifest now had not the war intervened to hold them in check.

It were absurd to say that the Old Warden competition brings no jealousy. The rivalry is keen, and more than one man is determined to attain to the premier position. As I write I can see clearly three gardens which ought to achieve pre-eminence, and their owners are striving for it. The difference in the prize may be 1s. or 1d., the difference in honour is immense.



OLD WARDEN: A HOME IN CHARMING SURROUNDINGS.

And running through it all is pride of their village. There are many villages in England which rival, and some, perhaps, which excel Old Warden in beauty, but the cottagers know of none, any more than I do, where the gardens are so profitably productive or where the cultivators are encouraged to produce more, and still more, as is done by Mrs. Campbell at Old Warden. Each has his reward in more and better crops, plus a prize; all are imbued with the spirit that Old Warden is first and that it shall remain first.

Why should not the example of Old Warden be followed? The benefits which accrue are to the nation, not to the village alone.

At the moment, Old Warden can challenge any English village (this is equivalent, of course, to any village in the world) provided that every garden is judged and that the same basis of judging is accepted. I know villages where individual gardens are superior to the best at Old Warden, but I do not know one where the average of excellence is nearly as high.

I claim supremacy for Old Warden. Are there village owners to contest the claim? If so, there is plenty of time to make preparations and go ahead next year. Since one year could not be accepted fairly on either side I should suggest that the competition should extend over not fewer than five seasons.

HORACE J. WRIGHT.

Tritonias as Pot Plants.—These are excellent subjects for pots for conservatory or house decoration, the flowers lasting in good condition for many weeks when lightly shaded from hot sunshine. The plants should at all times be grown as cool as possible and have plenty of air. The pots are now filled with roots and the flower-spikes developing, so some assistance should be

Net your Fruit Trees and Ensure Crops

THERE is one thing in connection with the protection of fruit trees that deserves a little more attention, and that is the advisability of grouping the different fruits together as much as possible. I am aware that this in small gardens is sometimes a difficult matter, but still if it could possibly be managed, the few Peaches, Apricots, Plums and dessert Cherries might respectively be grouped together on the different walls, so that it would be a question of covering the one family instead of running about from tree to tree. Whatever may be the material used, a considerable stretch of wall can be covered more quickly, and certainly more effectually, than a few yards; that is, of course, if the arrangements are of a homely nature. Special copings with tiffany blinds of a certain length, cords, pulleys and other elaborate accessories are only to be had in a very few places. So far, however, as the south of England is concerned, tiffany is neither necessary nor advisable, especially if labour is scarce. Netting answers the purpose equally well and no rolling up and down is required; it is put on at the expansion of bloom and remains until the fruit is set and well on the move. The fact, however, that to be absolutely safe such a covering ought to be a double thickness of stout half-inch mesh netting renders the covering of long stretches of wall rather an expensive business. It must, however, be remembered that this netting answers several purposes, and it is in the open from the middle of March until October is fairly advanced, its last work being to protect Pears, late Plums, Morello Cherries and late Currants from small and large birds.

It cannot be too strongly enforced that without spring protection a gardener cannot guarantee a supply of fruit. With it, on the other hand, partial failures are rare and total failure almost unknown. I said above that the netting would be in use from March until October, but the service would be still further prolonged in gardens where bullfinches are troublesome: portions of the netting have to be placed along the Plum walls to keep the buds intact.

B. I

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Lawns.—Where any seeding down is contemplated, the work must be done at once, taking care to get the surface of the ground well prepared before sowing, and always remember it is better to sow too thickly than otherwise. Nearly all leading seedsmen supply suitable mixtures if particulars of soil are sent them. Mowing is already demanding much time and labour owing to the mild conditions experienced, and here at Albury at the end of March we were using the scythe where seed was sown the last few days of September.

Polyanthus require a long season of growth, and seed should be sown now, in boxes of light rich soil in unheated frames. Cover from light and sun until germination, which is generally slow, has taken place; in fact, partial shade is beneficial during early growth also.

The Kitchen Garden.

Runner Beans.—The first picking of this valuable vegetable may be considerably hastened by making the first sowing under glass, and planting out when all danger of serious frost has gone. Where space is limited, sowing must be made in boxes, but better results are obtained by sowing the seeds singly in 4ins. pots, and growing them on until it is safe to transfer them to their fruiting quarters. Some growers advocate trenches and probably heavier yields are obtained from plants thus grown, but good returns may also be had from plants grown on the level, providing the ground has received liberal treatment. A foot apart should be the minimum distance allowed when planting.

Parsley when grown as an edging often adds greatly to the appearance of a well kept pathway, and it is a method of culture to be recommended as it is very easy to gather. A good sowing should be made now to yield pickings for late summer and autumn.

Salads.—Sowings of Mustard and Cress and Radishes may be made as required. The supplies of Lettuce will now be better from early frame plants, and of course, in many places, the much valued salading will be greatly strengthened by early Cucumbers and Tomatoes.

Hoeing should be constantly practised among such growing crops as Cabbage, Peas and Beans, to check the possibility of weeds and to keep the soil round the plants uniformly moist.

French Beans.—Where a sowing has not yet been made a start should be made at once on a warm border. At the same time some seed should be sown in boxes, in a cool house, to transplant when sufficiently advanced.

Plants Under Glass.

Primulas.—This valuable race of winter and spring flowering plants require no "puffing," a better and more practical testimony to their value is obtained by visiting a few of the Royal Horticultural Society's meetings, when some of our leading firms are exhibiting them. The season has now arrived when next winter's display must be arranged for. The seed sowing time may be spread over the next three months, according to when the plants are required to flower. Two or three sowings should be made, and an uninterrupted display of bloom may then be safely relied upon for several months. The seed should be sown in well drained pots or pans of light soil, and germination should take place in cool quarters, taking care to cover with glass and shade until seedlings are up. In the early stages of growth, a frame just slightly heated and where the plants may rest on a cool ash base, is suitable, shading from strong sunshine with tiffany or some similar material. Of great beauty are the sinensis and stellata sections and worthy of note is the malacoides group and kewensis, both very sweetly scented. Individual taste and the requirements of the place must govern selection of varieties.

Fruits Under Glass.

Melons in Frames.—Good results can be obtained during the summer months from frame culture. If heated so much the better, of course, but it is not essential. A good bed of strawy manure and leaves will give the plants a start, and the soil, nearly all loam, should be placed in a mound on the material to get well warmed before putting out the plants. Two may be grown in each 4ft. division, thus getting from four to six good fruits from each light. Make the utmost use of sun heat by closing the frames early, spraying the plants lightly at the time, and always cover well up in the evenings until cold nights are safely behind us. For frame culture, varieties of proved hardy constitution should be selected, such as Hero of Lockinge.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Peas.—Plants that have been raised in pots or boxes with a view to planting out should be sufficiently hardened off to allow of this being done. Handle carefully, making sure the roots suffer as little damage as possible. Stake with short Spruce twigs immediately the work is finished, as this not only gives them a start, but acts as a shelter as well. Further fortnightly sowings should also be made in the open.

Tomatoes.—Pot up later batches and keep growing steadily and sturdily, avoiding excessive heat. Early lots in flower should be kept well ventilated during fine weather, as a buoyant atmosphere tends to keep the plants clear of disease, while the flower trusses set more freely.

Maincrop Carrots.—Advantage of fine weather may be taken now to get the maincrop sown. We favour the intermediate sorts and find Sutton's Scarlet and James Scarlet Intermediate two of the best. Among the long-rooted sorts Red Surrey is excellent for general cropping. Sow in drills, about 14ins. apart, on ground that has been deeply and finely worked.

Turnips.—Further sowings of Milan varieties may now be made without much fear of injury by frost. Sow in shallow drills 15ins. apart, but do not sow in quantity, as the Early Milan type is best used when young; therefore arrange for successional cropping.

Onions.—Boxes of these which were raised in heat will now be hardening off in frames in preparation for planting out at the end of the month. We find that if weather conditions are at all suitable this is the best period for transplanting, as it is scarcely likely that we shall get weather so severe after this date that injury may be done to the plants. Presuming that the ground has already been deeply dug and properly manured, the surface should be lightly forked over, giving a good surface dressing of wood-ashes and soot. After a day or two it may be raked finely and then marked off in rows 15ins. apart. If it is desired to have extra large sized bulbs allow from 10ins. to 12ins. between the plants in the rows, although for good ordinary bulbs I think 8ins. quite enough. When lifting from the boxes retain as much soil on the roots as possible, being also careful not to plant too deeply.

Fruit Under Glass.

Vines.—In early houses thinning of the berries will occupy some time now, and the work should be pushed forward as speedily as possible, as vigour is wasted in allowing unnecessary berries to swell before thinning. It is essential to know the varieties, and the size the berries are likely to swell to, as this greatly assists the thinner in determining what to leave and what to take away, the final aim being that when the berries are swollen to their full size the bunch should just be firm enough to hold itself in shape without being overcrowded. After thinning is completed, the border should receive a good watering, with the addition of some suitable stimulant.

Violas.—Transfer these to their flowering quarters without delay. They will be found to flower profusely in most garden soils which have been generously worked, but they do not like hot calcareous soils, being partial to a cool root run.

Transplanting Sweet Peas.—Sweet Peas raised in boxes should now be carefully removed to the ground prepared for them some time ago. Plant thinly and allow for the development of the plants. Stake with small Spruce twigs, and so assist them in starting growth again. Dust with soot on either side of the lines to ward off slugs.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

EDITOR'S TABLE

A BEAUTIFUL HYBRID CRAB.

Pyrus purpurea.—Mr. R. C. Notcutt sends sprays of this lovely Pyrus with the following note: "I send you a few sprays of Pyrus Malus floribunda purpurea." [Rehder has published the name recently as Pyrus purpurea.—ED.] "To my mind it is the best of the family. As you see, it is a striking colour and has beautiful dark foliage through the summer, while the tree has a compact, upright growth, not drooping like the ordinary P. floribunda. It makes an excellent specimen for a lawn or similar position."

This hybrid Crab is of Continental origin, being disseminated by M. Barbier of Orleans. The first trees received at Kew were purchased in 1911. The parents are Pyrus floribunda atrosanguinea, a Japanese Crab, and P. Niedzwetzkyana, the Russian Crab, but whether of chance or artificial reproduction, we have seen no record. In habit the tree is

RED LIKE WINE.
(*Pyrus purpurea.*)

intermediate between the two parents, being more upright in growth than P. floribunda but graceful in outline compared with the stiff-branched Russian Crab. The vinous red colouring which permeates the branches, leaves, flowers and fruits of the last named is also a characteristic of the hybrid. The colour of the flowers, borne freely during April, is rich rosy red with just a suspicion of purple, but it is a warm, glowing purple compared with the striking purple blossoms of P. Niedzwetzkyana. The fruits again are intermediate, having the long stalks of P. floribunda, but they are the size of large Cherries and vinous red in colour. As a specimen tree of moderate size for our pleasure grounds Pyrus purpurea is a distinct and valuable addition

CORRESPONDENCE

THE HARDINESS OF HABRANTHUS PRATENSIS.

ANENT the remarks of two or three writers in your columns upon this gorgeous flower I well remember some years ago going to Westwick in Daffodil time and George Davison pointing out to me about a 40-rod patch of it just coming on. I remember also later they were simply a blaze of colour. In the year 1912 at the International Show the date just coincided with the flowering of them. George Davison, with his cuteness, sent huge bunches of the flowers to Wallace's, and, I think, other stands. It proved a fine stroke of business for him with the bushels of bulbs of it he had for disposal.—H. PERRY.

THE VOICE OF THE CUCKOO.

When Spring begins to charm the earth and air
With songs of birds amid the brightening trees,
A clarion sound is heard, whose accents bear
A new-found freshness to the vernal breeze.

It dawns upon us with a glad surprise,
That we have known in years long passed away;
It seems to bring the tears to April's eyes,
And deepens all the tender moods of May.

A transient voice, from lands where Beauty dwells,
With Proserpina, by the Southern Sea;
Like the fair Goddess, love-restored, it tells
That flowers and fragrance have come back to me!

DAVID R. WILLIAMSON.

COMBATING THE RHODODENDRON FLY.

I NOTICE in your "Answers to Correspondents" (March 26, page viii) that you refer to the use of nicotine wash on Rhododendrons in order to combat the Rhododendron fly. Unfortunately, this fly seems to be spreading, and I have received plants from several nursery gardens which were badly attacked by it. Although the fly does not seem to hurt the plant very much, it certainly disfigures it badly, making the leaves look rusty and unhealthy. In my own garden, however, I have fortunately been able to get rid of the Rhododendron fly without too much trouble, and it may interest your readers to know the method employed. A solution was made of 4lb. of whale oil soap, 1qt. of Bentley's Orchard Spray and 30 gallons of soft water, and the Rhododendrons were sprayed with this early in May, just when the fly was beginning to hatch. A few weeks later the plants were sprayed again. The plants were then carefully watched, and if there was again any sign of fly another spray was given; but generally the two sprays are found sufficient to entirely free the plant, and I could not find a fly last year in my garden. Great care must be taken to wet every leaf thoroughly underneath, as it is most important to destroy every fly and prevent them breeding again.—L. R.

A COTTAGER'S FLORAL DECORATIONS.

THE floral decorations in the cottager's sitting-room are not expected to be on the same plane as those in the drawing-room of the lord of the manor, yet in a cottage which I visit from time to time I have seen some striking effects produced out of a few homely flowers through the ingenuity and good taste of the young lady of the home. During recent weeks, when outdoor flowers were

THE SIZE OF YEW TREES.

KINDLY allow me to correct the measurement that I gave of the ancient Yew tree at Hambledon, near Godalming, in your issue of March 26. Although the girth of the trunk is the church, and this appears to be quite possible. It is difficult to get an exact measurement of the trunk, as the old tree is busy thickening the main support of the great branches by throwing out copious "spray." I make the girth about 24ft. 6ins. If we take the diameter to be 8ft. (about 3ft. from the ground) and estimate the growth to be a foot every seventy-five years we get the age of 600 years; but the old fellow has had to repair the loss of a large limb, fill up hollows in the interior of the trunk, so that his energies have not all gone to increase his girth. It is almost certain, I think, that this grand old tree is more ancient than the mere measurement might lead one to suppose, and it seems likely that the warlike and methodical Normans would place it in the churchyard to provide bows. The accompanying illustration clearly shows what a fine healthy condition the tree is in; a worthy memorial indeed of William the Conqueror. In the meadows near the church the Snake's-head Fritillary grows abundantly and at the time of writing (April 5) is just coming into flower.—H. H. WARNER.

IN your issue of April 2 (page 159) "R. G." asks for information regarding the Yew at Loudoun Castle, Ayrshire. He may, therefore, be interested to know that in an article by John Renwick, entitled "Yew Trees in the Clyde Area,"

THE ANCIENT YEW IN IFFLEY CHURCHYARD, OXFORD.

recorded as measuring 39ft., I had the opportunity of measuring it myself a few days ago; and the Rev. E. J. Seymour, Rector of Hambledon, also kindly measured it, and we made it 30ft. 9ins. if the irregularities of the growth are followed. This is a disappointing difference, but my disappointment was atoned for by finding that the Mistletoe is still to be found growing on the Oaks in this district. A few years ago it was plentiful, but, as anyone appeared to be at liberty to cut it and carry it off, it has all but disappeared, and in order to prevent its extinction I would suggest the seeds being sown in slits cut in the young branches of other Oak trees near. Many readers of THE GARDEN will know the famous Norman church at Iffley, near Oxford, which was built in 1175. The Yew in the churchyard is locally credited with being the same age as

published in the *Glasgow Naturalist*, Vol. V., No. 1, an account is given of this tree. In 1911 it was measured by Mr. Renwick, who states that it girthed 13ft. 9½ins. at the narrowest part of the trunk 2ft. up and had a spread of 81ft. The first large branch goes off at 6ft., but the trunk may be said to be 20ft. high. The average annual increase for twenty-two years (1890–1911) was .36in. Dr. D. Christison in the "Transactions of the Botanical Society of Edinburgh," March, 1895 (Sess. LIX., page 389), remarks that "four centuries may be assumed as a very probable age for the Loudoun Castle Yew." It is said that under its branches the Articles of Union between Scotland and England were signed. Mr. Renwick gives interesting particulars of many Yews in the Clyde area, and states that the largest is one which he measured in October, 1912, at Craigends, Renfrewshire, on

the side of the River Gryfe. The trunk is very short. It begins to divide at about 3ft. up into thirteen or fourteen great limbs, one of the largest of which is 8ft. 4ins. in girth at the base. At 10ft. from the ground there are about thirty stems. It is not possible to take the tape straight round the trunk, but at the narrowest part the girth is 22ft. 8ins. on an irregular line at an average of 2ft. up. The diameter of the branches is 91ft. on a line parallel to the river, and 82ft. at right-angles thereto. The foliage thus extends in nearly a circle and covers an area of 7,400 square feet, or over an eighth of an acre. The height of the tree is 44ft. It is a male and is very healthy and vigorous. Mr. Renwick makes reference to the Island of Inch Lonaig, in Loch Lomond, where Yews give a special tone to the scenery. In few places outside the chalk downs do Yews form such a distinctive feature of the country as on Inch Lonaig. Reminiscent of the bow and arrow period, Joseph Irving, in "The Book of Dumbartonshire," 1879, states: "Inch Lonaig is thought to be identical with the island granted about 1225, by Maldowen, Earl of Lennox, to Gilmychel of Bandry. To furnish the Lennox men with trusty bows, the island was planted with Yew trees on the advice of King Robert Bruce." Sir Thomas Dick Lauder, in his edition of Gilpin's "Forest Scenery" (1834), writes: "The Yew Tree Island in Loch Lomond, furnished 300 Yews for the axe at one cutting some fifteen or twenty years ago, and there are still a number of fine specimens of this tree on it." Mr. Renwick states that when he visited Inch Lonaig in 1909 the best Yews which he saw measured 12ft. 3ins., 11ft. 2½ins., and 10ft. 1in. in girth.—J. C., *Glasgow.*

THE ROSEBUD CHERRY OF JAPAN (PRUNUS PENDULA).

AT the recent meeting at Vincent Square this very handsome little tree was quite one of the best items among the hardy shrubs, and although quite an old introduction to English gardens, it is still comparatively rare. This may be due to the fact that it is only on very rare occasions that it is to be seen at an exhibition, but the fact remains that it is still one of the finest of our early flowering trees. In habit of growth it is not unlike P. Mahaleb pendula, but it is neither so dense nor so vigorous as that tree. It is occasionally to be found of quite tree-like dimensions, but it very much more often forms a sturdy, bushy little tree of 8ft. or 10ft. in height. In flower it is always an object of great beauty, for the blooms are produced with such freedom as to completely cover the branches. The blossoms are about five-eighths of an inch across and are usually grouped in small clusters of three to five. The buds are of a very pleasing shade of carmine pink, and when fully expanded are of a very delicate shade of shell pink; this in turn changes to blush before falling. To those who are familiar with Prunus subhirtella, the subject of this short note may be best described as a dwarf and pendulous form of that species, for although P. pendula was known long before the distribution of P. subhirtella, yet there is small doubt of the affinity of these two handsome flowering trees. Like all early flowering Prunus, it is usually best to plant this little tree where it is protected from cold north or east winds, which so often prevail at this early season of the year. Grown on a short stem, it is also a charming subject for rockwork where space permits.—E. W. S.

PRUNUS SUBHIRTELLA.

I CAN endorse all that is said (page 169) with reference to the beauty of the Japanese Cherry, Prunus subhirtella, which, according to Nicholson, is synonymous with P. pendula and was introduced so long ago as 1868, but does not appear to be widely grown. But another Japanese Cherry, P. Miqueliana (Miquel's), introduced twenty years later, I think, although very similar in character to P. subhirtella, is perhaps even more beautiful, and the great length of time in which this variety remains in bloom adds greatly to its value. Two trees about 10ft. in height in my garden commenced to flower in the first week in February and up to the first week in April were objects of great beauty. Last year there was a second period of flowering in the early autumn. P. Miqueliana is a variety apparently not sufficiently known.—CHARLES E. SHEA, *Foots Cray, Kent.*

PRUNUS PENDULA MAKES A GRACEFUL LITTLE WEEPING TREE.

AN EARLY FLOWERING PLANT FOR THE ROCK GARDEN.

OF the species of Synthyris in cultivation S. reniformis is the best, and on account of its early flowering qualities it is very acceptable for the rock garden. It is a native of North-west America, usually found growing in moist places and near streams, and although it was introduced about 1885, it is rarely seen in gardens to-day. This is to be regretted, for it is a desirable plant; the first flowers open about the end of January and remain in full beauty for several weeks. The blooms are about a quarter of an inch in length, pale violet in colour and produced in profusion. The foliage is also attractive, the leaves having deep-toothed margins. S. reniformis is of easy culture and should be grown in cool, loamy soil where it receives the full rays of the sun for the greater part of the day. Propagation is effected by division of the plant after flowering, seeds being rarely produced. It is quite hardy and would also be useful for the alpine-house where it would show off to advantage.—B.

MAGNOLIAS AT FRAMINGHAM MANOR.

IT was recently my good fortune to spend a few hours in the charming gardens of J. H. Christie, Esq., Framingham Manor, Norfolk. The weather was glorious, with bright sunshine. These gardens are noted for the great variety of rare and choice flowering trees and shrubs. I had heard much of the glories of the Magnolias which grow there; hence I made an effort to avail myself of a special invitation to see them this year when at their best. Right glad I was that I had such a floral treat. Many of the trees of the large flowering kinds are 18ft. or so in height and with a spread, reaching to the ground, of equal dimensions, and they were covered with hundreds of blooms. Of the largest trees the varieties are rustica flora rubra, Lennei, Kobus and Soulangeana. There are also groups of the charming stellata variety backed up by Cedars and Yews, which seemed to add intensity to the purity and star-like form of this variety; and I could not help noticing especially a fine plant of the white variety, conspicua, adjacent to the stellata group. I have not heard of anywhere else in the Eastern Counties where such a comprehensive collection is to be seen, or where this family of exquisite flowering trees seem to do so well. One feels they could write much more of other things seen, but I want this note to be devoted to Magnolias.—H. PERRY.

THE SHAMROCK PEA.

I WAS pleased to see attention drawn to this charming plant (Parochetus communis), issue of April 9, page 171. So far I have failed to get it established on the rock garden, although when pricked out in a cold frame it was a decided success. The lights were removed throughout the spring and summer months, and the roots well supplied with water. The Clover-like leaves rise about 3ins. above the ground, and the Gentian blue, Pea-like flowers are produced in quantity throughout the summer and autumn months. If a suitable damp, sheltered position can be found it should certainly be planted, and when it becomes established it is free growing and will soon cover a large area. It is readily increased from seeds, and for some years I managed to keep up a supply of plants by this means, but unfortunately during the war the species was lost. Seed may be sown directly it is ripe, and the young plants should be grown cool at all times. When in Darjeeling some four years ago I spent my spare time rambling around the hills of the district, and there at 8,000ft. elevation I found the Shamrock Pea growing luxuriantly and a mass of its blue flowers. It was partially shaded, and water was trickling among the roots. Around Darjeeling the rainfall is a heavy one, and the

Should Chefs or Growers Judge Garden Produce at Shows?

I HAVE followed with much interest the correspondence appearing in your columns on this subject—raised by what is now generally regarded as an ill-advised suggestion on the part of the respected President and Secretary of the Royal Horticultural Society—and I should like to thank Mr. Beckett for his timely and well reasoned protest against what can only be regarded as a gratuitous rebuff to a craft of which he is such a distinguished member.

Can it be that the new President and Secretary of the Royal Horticultural Society have not read or, having read, have forgotten the latter-day history of the Royal Horticultural Society at South Kensington and the nemesis that followed the departure there from a strictly horticultural policy? Or is it that the Royal Horticultural Society is now in such a flourishing condition that it can afford to flout the members of a craft who at some personal inconvenience and cost have consistently supported the Royal Horticultural Society by exhibits and by giving their best services as judges and by acting on the various committees? And this at a period in our history when unity of effort is imperatively required on all hands if we are to restore British horticulture to the high standard it attained to before the Great War!

What are we elder gardeners—who have struggled during the past few eventful years to the best of our ability to hold things together while the young and promising manhood of the craft have been fighting our battles—to say to these young men who have returned from this awful struggle and who are now desirous of gathering up the lost threads of six years' experience?

Are we, in the somewhat flippant words of "Anne Amateur," to tell them that, owing to "incompetency" and "tyranny" on the part of gardeners, for the future the chef is to be their pastor and master so far as vegetable growing is concerned? This, it appears to me, is the only logical conclusion we can arrive at from this ill-advised suggestion.

Eaton. N. F. Barnes.

I THANK "Anne Amateur" and the other writers in The Garden for their exceedingly kind references to myself in this controversy. I feel confident the subject is not yet done with, and believe that much good will result from the discussion.

One phrase of our lady contributor is, in my opinion, rather an unhappy one, and she herself remarks that she enters on delicate ground. That remark "the sport of growing and showing vegetables at the said employer's expense" calls for immediate refutation, for, firstly, I should estimate that 90 per cent. of the exhibitors of vegetables do not fall inside the category of private gardener at all, but are, in fact, largely composed of earnest, clever amateurs and cottagers, against whom the gardener has to pit all his skill to hold pride of place, and then not always successfully. Further, many shrewd employers encourage the natural desire of a gardener, who is worthy of his calling, to show, for the employer in his wisdom realises that a gardener who is capable of exhibiting can produce first-class vegetables, and therefore the employer's table profits, not only from a continual and proper supply, but also most excellent quality; and, finally, I would point out that this type of gardener is one who does not consider about sparing himself, but for the love of his enterprise is prepared his object. The dilatory man is the expensive article, for his work is like to his ambition.

Does "A. A." choose her cooking vessels according to the size of the vegetable, or in relation to the quantity that has to be cooked? I am also wondering whether she cooks her Cabbages whole likewise her Parsnips and Turnips, for that sentence anent small vegetables requiring smaller vessels is mystifying, as I rather had the idea that quantity per head was the basis of calculation in ascertaining how much should be cooked.

Edwin Beckett, V.M.H.

I HAVE read the correspondence on the judging of vegetables at shows with much interest and, moreover, I have thought about the matter, and the conclusion I have come to is that a vegetable on a show table is one thing and the same vegetable in my mouth is another thing. Most Tomatoes I see there I would not give tuppence for. They look too ripe, and I like them rather under-ripe. Peas, again, are always shown large and full grown—give me them young and partly grown for epicurean pleasure.

I look upon a vegetable show as something very near akin to a florists' Carnation or Tulip show. Only those who understand the particular points which the growers aim at, and which have become a *sine qua non* in the evolution of years, should judge show vegetables. They are a thing of themselves, and in my way of looking at the matter it is just as much a specialist's job to judge a show vegetable as it is for an Auricula expert to judge a show Auricula or a Carnation expert a show Carnation.

I have a feeling for all—for "Anne Amateur" who knows what's good; for Mr. Poupart, who, like me, likes a big return; and for Mr. Beckett, who is a veritable vegetable Glenny in setting up standards for lesser lights to aim at.

Joseph Jacob.

Ferns in the Greenhouse

APART from their own intrinsic beauty, Ferns are of considerable value in the greenhouse, as in their garb, principally of sober green, they serve admirably as a foil to bright-hued blossoms. Most of them, too, can be taken into the dwelling-house for a time without injury. At one time heavy shading and a soil composed principally of peat were considered necessary for the successful cultivation of Ferns, but time has changed all this, and they are now grown in a more rational manner. Most Ferns will thrive in a compost of equal parts of loam and leaf-mould or peat with a good sprinkling of sand.

Repotting, when it is needed, should be done in the spring before the new fronds push up. Shading to a certain extent is of course necessary, but it should not be permanent if it can be otherwise arranged. When growing freely, Ferns need a liberal amount of water; but at the same time effective drainage is very necessary. A liberal amount of atmospheric moisture is very beneficial to Ferns in general. One of the *Country Life* booklets just published, entitled "The Greenhouse and How to Make the Most of It," by W. Truelove (9d. net.), gives the following list of Ferns suitable for the greenhouse:—

Adiantum assimile, A. cuneatum, A. c. grandiceps, A. decorum, A. elegans, A. gracillimum, A. pubescens, A. Williamsii, Aspidium braziliense, Asplenium biforme, A. bulbiferum, A. Colensoi, A. Mayi, A. Nidus, Blechnum brasiliense, B. occidentale, Cyrtomium falcatum, C. f. Mayi, Davallia brazilensis, D. bullata, D. canariensis, D. Lawsoniana, D. Mariesii, D. tenuifolia, D. Tyermanni, Dicksonia antarctica, Doodia aspera, D. lunulata, Dryopteris palmata, Lastrea aristata variegata, L. lepida, L. patens, L. Richardsi multifida, L. varia, Lomaria ciliata, L. gibba, Lygodium japonicum, L. scandens, Microlepia hirta cristata, Nephrodium molle corymbiferum, Nephrolepsis Amerpholii, N. cordifolia compacta, N. davallioides furcans, N. exaltata superba, N. Marshallii, Onychium japonicum, Osmunda palustris, Platycerium alcicorne, Polypodium aureum, P. glaucum, P. Mayi, P. nigrescens, P. Schneideri, Polystichum triangulum, Pteris argyræa, P. Childsii, P. cretica albolineata, P. c. major, P. leptophylla, and P. serrulata.

OBITUARY

ROBERT ALLEN ROLFE, V.M.H., A.L.S.

BY the death of Mr. R. A. Rolfe, which occurred on April 13, horticulture loses its leading authority on the classification of Orchids. Mr. Rolfe entered the Royal Gardens, Kew, as a young gardener from Welbeck Abbey in 1879, and by virtue of his close application to botanical studies he attained one of the most distinguished positions in the Kew Herbarium, and he was one of the most recent recipients of the Victoria Medal of Honour in Horticulture bestowed by the

THE LATE ROBERT ALLEN ROLFE, V.M.H.,A.L.S.

Royal Horticultural Society. His death is the more to be deplored as he was soon due to retire from Kew, and he was looking forward to spending the evening of his life in quiet retirement.

Mr. Rolfe was the founder and editor of the *Orchid Review*, a publication which, owing to his illness, ceased a few months ago. His interests were not confined to Orchids; he paid particular attention to natural hybrids, and readers will remember his interesting papers on the genus Rosa which appeared in The Garden a few years ago. Many, like ourselves, were indebted to him for the help so freely given in those subjects, on which he was an acknowledged authority.

GARDENING APPOINTMENT.

Mr. S. R. Fasoms.

Mr. Sidney R. Fasoms, who was manager to the late Reginald Farrer at his Craven Nursery in Yorkshire, has been appointed by Mr. Frederick G. Wood to be manager of his alpine nurseries at Ashtead, Surrey, and has already taken up his duties there. With his intimate knowledge of so many of the newer plants introduced by Mr. Farrer, we may expect to hear of some good things coming from this nursery, which has only been recently established

EELWORM IN DAFFODILS

The Ways and Methods of Attack

WHILE in the adjacent rotting scale the eelworm presses its spear point into the healthy white scale next to its home and thus gets a mouthful of food. Sportsmen will have noticed, while snipe shooting, borings of this bird in the mud. In like manner the eelworm uses its spear. Now the Nematoid can and does this continually. It happens in investigations that what appeared in the growing stage to be fairly certain has to be modified by the light of a future stage. But though the eelworm can pierce the epidermis of the leaves and flower stems at almost any time, it still remains good that it cannot enter the leaves except under the circumstances already referred to in a previous article. The plant in the growing season heals the pierced point up almost immediately. In the bulb the same thing happens and the eelworm is unable to enter it. As it cannot enter, it makes fresh holes with its spear, which appear thick all along its feeding path and cause the russety markings on the bulb already noted. Where a few eelworms are thus feeding themselves the bulb calluses the piercings each time, but when vast numbers of eelworms join in the attack they at last are able to enter the sound scale and thus traverse from an infested scale into the healthy scale adjacent. The ways and methods of attacks by eelworms on the bulb are numerous and are helped considerably by other lowly organisms, including the bulb mite (Rhizoglyphus echinopus), wire worms and even slugs. The most common and often the initial attack is from the neck of the bulb by way of the sheath right down a scale in a streak to the basal plate from whence the attack spreads to the healthy scale next to it. Sometimes the attack is upwards from the basal plate, but the forms of the attacks are too numerous to mention. The bulb stores fat or fatty oil, protein, starch and sugar within itself. The sugar needed for respiration is always found in the last season's growth and more particularly in the embryo leaves formed under the flower stem and the adjacent leaves. If eelworm attacks the flower stem or either of the two leaves next to it, the rapidity with which the attack progresses is great. Here they breed and lay eggs so that the swarm of eelworms that result break down all resistance and the basal plate is quickly reached. This generally means that the largest portion, if not the whole, of that season's gains are lost to the bulb, which makes bulblets on one or both sides and thus continues existence. The eelworms now in countless numbers at the centre of the basal plate, having been fed on the richest and best products of the bulb, take on a migratory phase. They collect all together in a bundle like a tuft of cotton wool. The basal plate cracks away from the scales and thus an exit is made for them. But the eelworms will not leave the bulb until there has been an abundance of rain and the soil is saturated with moisture. In this cotton wool stage, if the bulb is taken up and dried the eelworms hibernate and are indifferent to air and dry conditions. They also seem to be immune to drought, poisons and apparently everything else. If there has been much wet weather they can be seen twisting and curling about in the moist air. They are fat, sleek and their skins are covered with waxy fat. Immersion in hydrarg. perchorl., 1 in 100, for four hours fails to kill them. The first thing to destroy them is pure methylated spirits, a drop of which is instantly fatal and does not injure the bulb. In the natural course this vast army of eelworms in the form of a tuft of cotton wool, migrates through the wet soil in search of other bulbs to attack. Like salmon in fresh water they do not feed at this stage, but after migration and travelling through the soil gradually the superabundant reserve force is diminished, the oily skin loses its fat and at last they must eat again. Only when they eat again can they be killed as easily as before the migratory stage, which gave them such wonderful powers of resistance and endurance against the most adverse conditions of their lives. Two important points must be noted here. First, that these eelworms let loose into the soil in such vast numbers have been raised in a bulb and have been educated in all the arts of attacking a Daffodil and are therefore much more dangerous than those left in the soil, however great their numbers may be. If there are no Daffodils in the soil they will attack anything which can suit their purpose and carry them through another season. Here is a list of bulbs and plants attacked by eelworm collected last season: Hyacinths, Muscari "Heavenly Blue," Tulips, including Darwins, Cottage and Old English Florists' Tulips, and Lilium candidum. I have had the above growing for six years among Daffodils, which were originally infected by the introduction of Gladiolus

The second point is that the nitro-hydrarg perchlor. treatment, while the poison only kill the eelworms in the growing leaves and flowe stems, leaves the plant free to make vigorou growth and thus renew its resistant forces. I has been noted that no poison can be stored i the bulb scales, yet by ridding the foliage of eel worm the poison is the means by which the fer tilisers are allowed to benefit the plant to the maximum point. This benefit is manifest long after the bulb has ceased to grow and even in the dry state it endows the bulb with power to arrest further eelworm attacks and thus lessen the damage, although still infested with the Nematoid.

C. A. JARDINE.

Colour in the Heath Garden

THE common Ling of our heathy wastes is one of the most important occupants of the Heath garden. Even in the common type it may well be used as a general groundwork for the greater number of the less common kinds. It has varied into a large number of forms. Among white alone there are no less than ten different ones in nursery catalogues, and as many more of distinct habit or tinting in the typical colouring of greyish pink. This tendency to variation can hardly be overlooked by anyone who is ordinarily observant when walking through wild moorland, and our Heath gardens are much the richer for the inclusion of some of the extreme forms that have been collected and perpetuated. The illustration shows a sheet of white Heather with a foreground of the ordinary sort. As with all other wild gardening, it is well to plant a good number of a kind together, not in a solid block, but rather in a more natural-looking drift, softening out at the edges by an intermingling with some other Heath. By planting in this way—except that the eye is caught by some incidents of form or colouring that are not those of the common Heaths—the whole thing, for appearance, might be a bit of Nature's own

CALLUNAS IN THE HEATH GARDEN, WITH A GROUP OF THE WHITE VARIETIES, IN SUNLIGHT.

KENTISH CHERRY ORCHARDS

Hops Replaced by Cherries

KENT has been famed for Cherries for many hundreds of years, and anyone travelling through the county in spring and seeing the ordered beauty of the Cherry orchards in bloom, all

"Wearing white for Eastertide,"

will recognise that the title of "The Garden of England" is well earned and justly bestowed. As Lambarde said in his "Perambulation of Kent," 1576: "As for orchards of Apples and gardens of Cherries, and those of the most delicious and exquisite kinds that can be, no part of the realm (that I know) hath them either in such quantity and number, or with such art and industry, set and planted."

Between Canterbury and Chatham some of the finest Cherry orchards in the kingdom are to be found, and the soil in this district is that best suited for producing the fruit in perfection—a deep, full-bodied yet friable loam, often overlying a loamy brick earth. Next best are the loamy soils found above the chalk or the Kentish ragstone rock. Most soils which are not too thin will grow Cherries with a greater or less degree of success, so long as the situation is not too exposed. A low-lying valley is naturally unsuitable, on account of the risks from frost. Hall and Russell in their book on "The Agriculture and Soils of Kent, Surrey and Sussex" examine the cultivation of fruit in Kent in connection with the geological map of the county. They point out: "The fruit area forms a band, starting out from the south-east of London and following the belt of free-working loams on the Thanet Sands and the chalk as far as the Medway Valley. . . . East of the Medway Valley one of the richest areas of fruit and is formed by the deep loam of the Thanet sand, chalk and brick earth, which stretch from Rochester through Sittingbourne to Canterbury."

Cherries are best planted on cultivated land, and some of the best orchards were originally raised in Hop gardens, which had nearly reached the end of their life. Every fifth or sixth "hill" or plant of Hops—the hills are usually 6ft. apart—would be taken out or "grubbed" and a Cherry tree planted in its place, giving 30ft. to 36ft. between the trees, which would be arranged alternately in "diamond fashion." The young Cherries thus had the benefit of the thorough cultivation and liberal manuring of the Hop garden until the Hops were grubbed. Some authorities think that this results in too much early growth. But the advantage of tillage instead of grass during the first years is generally admitted, providing the roots are not disturbed, for the Cherry is a shallow-rooting plant and, at any rate, the land has to be laid down to grass within three or four years, otherwise damage to the roots might result in "gumming," and might kill some of the trees. Where Hops have been grown for many years very excellent pasture results. It is said that the grass under Cherry trees should be so close and fine "that a man may cross dryfoot in his slippers," and to attain this the land is stocked heavily with sheep. Grass is beneficial to the Cherries in that it slightly checks the growth of the tree by drawing on the limited amount of moisture available and so forcing the tree to form short-jointed, fruit-bearing spurs instead of coarse wood. Also, the grass helps to dry the surface soil and absorbs any ordinary rain-fall when the fruit is ripening, and a sudden access of moisture to the roots would possibly result in the fruit cracking and so losing its market value

some of the leading sorts for commercial purposes are (roughly in the order of ripening): Early Rivers, Governor Wood, Frogmore, Elton Heart, Cleveland Bigarreau or Early Amber, Nutberry Black, Roundle, Black Eagle, Napoleon and Turkey Heart.

The Early Rivers, as the name implies, is an early and generally profitable variety, for it is a fairly regular cropper and finds an eager and ready market. One of the most profitable varieties, where it can be grown successfully, is the Napoleon. This is a large, very handsome and beautifully coloured fruit, one that immediately "fills the eye" of the retail customer, and it possesses the great advantage of being firm-fleshed, so that it reaches the market in good condition and unbruised. The flavour is not equal to some of the others, but the Napoleon is showy—and sells. For sweetness and delicacy of flavour the Waterloo is hard to beat. It is a particularly luscious fruit, but it is rather soft and apt to suffer in transit.

Cherries invariably bloom profusely, but they are a precarious crop. Late frosts and gales may do irreparable damage or wet weather may cause the ripening fruit to crack and so spoil its market value, for with Cherries "their face is their fortune." The grower has to contend with the depredations of birds from early summer dawn to sunset, and it is to be feared that many otherwise useful birds incur the death penalty for robbery of orchards. Caterpillars, insect pests and fungoid diseases must all be strenuously combatted, and especially the fatal silverleaf, which is now attacking Cherries as well as Plums.

The fluctuations in the returns from Cherries are illustrated by the fact that in 1918, one of the worst years ever known, the Cherries from certain orchards sold by auction by a well known firm realised only £118. The next year the same orchards made £6,000. In favourable years the returns are very good. The average returns for many years from various orchards were tabulated some years ago as follows by an eminent authority, the late Mr. George Webb.

Parish.	*Years.*	*Acreage.*	*Average Sale. Cherries.* £	s.	d.	*Hard Fruit.* £	s.	d.	*Average per acre.* £	s.	d.
Lynsted & Teynham	14	88	1,214	0	0	500	0	0	19	9	6*
Milton ..	13	29	350	0	0	250	0	0	20	14	0
Tunstall & Halstow	13	32½	423	10	0	148	10	0	17	12	0
Milton ..	13	10	69	0	0	68	0	0	13	14	0
Borden & Tunstall	13	2⅞	88	6	0	6	4	0	37	7	0
Sit'gbourne	5	9				£270			30	0	0
Rainham	4	7½				£202			27	0	0

* Fifteen years not in perfection.

It is considered now that from really good and well established Cherry orchards the fruit should realise an average of something like £30 per acre. There are authenticated instances of single Cherry trees producing as much as eighty "half sieves," each of 28lb. of fruit, equal to a ton from the tree, and this may not be the record.

Many of the large growers sell the fruit upon the trees to dealers, for whom the transaction is somewhat risky, for if wet weather sets in and the Cherries crack, the returns are sadly affected.

The freeholds of well established Cherry orchards naturally realise high prices, not infrequently over £200 per acre.

According to Lambarde, who wrote in the sixteenth century, "Tenham, with thirty other parishes (lying on each side of this porte way and extending from Raynham to Blean Wood), be the Cherrie gardein and Apple Orchaide of

(Henry VII's fruiterer) revived Cherry culture in England. The stocks brought over, as some say, from Italy in A.D. 48, or more probably by the Normans, had degenerated and "lost their native verdour." Harrys bought 105 acres of rich land in Teynham called "The Brennet," and "with great care, good choice and no small labour and cost, brought plants from beyond the seas and furnished this ground with them so beautifully as they not only stand in most right line, but seem to be of one sort, shape and fashion, as if they had been drawn through one mould and wrought by one and the same pattern." The property known as Newgardens at Teynham, with its well known Cherry orchards, is traditionally said to be the land planted at that time. It is now held by Colonel Honeyball, to whom, as well as to Mr. F. T. Honeyball, the writer is indebted for valuable information. Two hundred years later Cherries were everywhere giving place to Hops, then a more profitable crop; but, as usual, the whirligig of time brought his revenges.—*The Kentish Estates Journal.*

Dutch Brown Beans for Winter Use

Get Ready to Sow in May

PARTLY owing to the fact that few varieties of Haricots ripen well or yield a profitable crop in England, partly, maybe, to the conservatism of gardeners, the growing of Beans for winter use is not by any means as common as it should be. The Dutch Brown, introduced by the Royal Horticultural Society during the lean years of war, yields heavily and ripens well as far North, at any rate, as the Midlands. Experience over a number of years leaves no doubt on these points. Their table properties are excellent, and properly dried, seeds keep in good condition for a very long time.

The following notes on the cultivation of Dutch Brown Beans in the season of 1920 may be of interest and use. The seeds were sown on May 18 in ground bastard trenched and cropped in the previous year with Potatoes. The soil—a light sandy loam—was green manured and top-dressed with superphosphate at the rate of 1 oz. to the square yard, and wood-ashes. Soot was used fairly liberally from time to time.

The Beans were sown in drills 1ft. apart and 12ins. from seed to seed, spaced alternately in the manner indicated below, the rows running north and south.

. . . . . .

. . . . . .

Between each pair of rows a space of 18ins. was left for ease of cultivation and to allow the plants more room for growth. The Beans made strong growth and podded freely. Practically every seed germinated.

Cultivation and Harvesting.—From the time when the plants were a few inches high until the yellowing of the leaves, the Dutch hoe was regularly used to break up the surface soil, and when the Beans were 6ins. or so in height earth was drawn up to the stems—being treated, in fact, just as the other varieties of dwarf Beans grown for their green pods. The rows were sprayed several times with clear water in the evenings during dry spells and Katakilla was twice used to check black fly. The crop having ripened well during September and the early part of October, was uprooted on the 11th and 18th of the latter month

for final drying. The plants were stripped of leaves and hung root upwards on wires stretched near the top of the garden wall facing south. In spite of one or two showers they dried perfectly. After shelling, the seeds, spread in shallow layers on trays, were left for a week indoors to get rid of all traces of moisture before storing. Glass jars, boxes or linen bags are suitable, but they must be kept as dry as possible. Instead of the golden brown colour of fully ripe seed, nearly 10 per cent. were white when shelled. These browned and dried satisfactorily on the trays, from which all Beans showing traces of unsoundness were removed before storing.

From a quarter of a pint of seed just over fifteen and a half pints of dried seed were harvested and proved of excellent quality. If the weather at drying time turns wet the Beans should be tied in bunches and slung head downwards over lines stretched near the roof of an airy attic or outhouse. In some parts of France the Haricot Beans are hung outside under the cottage eaves and shelled as required for use. R. C. S. Ross.

Spring Treatment of Grape Vines

Small Errors may be Costly.

TWO years ago both Grapes and Vine foliage were attacked by mildew practically throughout the country. The prevailing cold winds, mainly from north and east, were responsible for the havoc made by the mildew. It was, however, aggravated very considerably by lack of artificial heat owing to scarcity and cost of fuel. The latter is more plentiful this year, but it may be that very cold spells of weather, interspersed with hot sunshine, will be experienced in April and May. If such conditions obtain, the ventilation of the structure and other small matters will require very careful attention.

Approximate Time Required from Date of Starting Vines to Maturity of Grapes.—Of course, late-maturing Grapes must be allowed a sufficient period in which to grow and ripen their fruits. It is not wise to delay the gentle forcing of the new shoots unduly. As a guide to inexperienced amateur cultivators the following few details will be helpful: Varieties.—Black Hamburgh, about twenty-four weeks; Black Alicante, thirty-two weeks; Buckland Sweetwater, twenty-four weeks; Foster's Seedling, twenty-six weeks; Madresfield Court, twenty-seven weeks; Muscat of Alexandria, thirty-three weeks. As stated above, these dates are approximate. They are given from my own experience over a period of thirty-five years. Such Vines were not hard forced, of course; they were assisted in their early stages of growth by gentle artificial heat, mainly through the summer dependent on the sun heat, and finally assisted to put on colour and thoroughly mature by more artificial heat. These are the conditions under which thousands of amateurs are obliged to grow their Grapes.

How to Start the Vines.—I am presuming that the Vines have been cleaned, also the structure and surroundings. In all cases, though, it is absolutely necessary that the border be examined and water applied if the soil is at all dry. Do not open the ventilators except to admit a little air through the top ones on very fine days after new shoots begin to grow. Syringe the Vine rods every morning about nine o'clock to soften the buds and assist them to burst like the gentle showers of rain on our hardy fruit trees in spring. All syringed rods should be dry by sunset. Stop syringing after the young shoots have grown about 1 inch long.

Disbudding.—Directly the small embryo fruit bunches can be seen near the ends of the shoots begin to disbud. Finally leave one shoot, the best placed and bearing to all appearance the best bunch on each spur.

When the Vines are in Flower.—Before this stage is reached there must be some tying down of the young shoots. Bring them down to the wires gradually, as they easily break off at this stage. But when the flowering stage is reached they will not break off so easily and the final tying down may be done.

Thinning Bunches and Berries.—Cut out surplus bunches directly it can be seen which have "set" best and begin the thinning of the berries when the latter are about as large as duck shot, except Muscats, which must be left till the berries are quite twice that size.

Watering and Feeding.—At all times clear water must be applied to keep the soil uniformly moist, and when the work of thinning the berries is finished the first applications of liquid manure may be given. If these few details be carried out and cold draughts avoided, there will not be much risk of mildew appearing and spreading.

GEO. GARNER.

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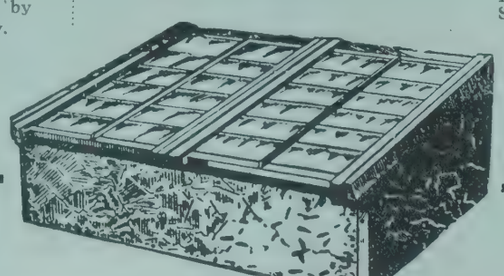

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NOTES OF THE WEEK

[April 30, 1921.

IT is difficult to understand why almost every garden does not have its beehive. Years ago bee-keeping was considered an important rural industry, and most old-fashioned gardeners had an apiary to ensure the fertilisation of their fruit blossom and to yield them, in addition, their winter's supply of honey. Now that modern hives and appliances make management and handling easy for the most inexperienced, the beehive should again take its place as part of the garden equipment. English honey commands a good price, and 50lb. to 100lb. is no exceptional yield from one hive, while double this amount has on occasions being reached. Now is the season of the year to start keeping bees, and no time should be lost by those thinking of taking action in the matter.

Dwarf Dahlias for Bedding.—On page 213 a timely article appears on planting out Dahlias. During recent years one of the most interesting and popular subjects for summer bedding has been the dwarf type of Dahlia. For large beds in public parks or gardens it has proved its worth, particularly the single scarlet variety named Coltness. This brilliant little Dahlia immediately attracts attention. It has been used with fine effect in the handsome beds at Queen's Park, Glasgow, and has been universally admired. Of easy culture, dwarf Dahlias are far more showy than Geraniums and require infinitely less work in raising. Growing only to a height of 18 inches, they are of bushy habit and require no staking. They are equally useful and effective when used as dot plants through a carpet of the Little Dorrit Sweet Alyssum or white Begonias.

UNUSUAL BEDDING PLANTS: MIGNON DAHLIAS IN AN OLD ENGLISH GARDEN.

Sowing Hardy Annuals.—Where it is intended to sow annuals in the open the beds must be prepared at the first favourable opportunity. Readers cannot have failed to benefit from the many good articles on annuals which have appeared in recent issues. When well selected and wisely grouped hardy annuals are delightful subjects, especially on a soil that suits them, but on cold, clayey soils the results are often disappointing. To remedy this, introduce, if possible, a surface dressing of old potting soil, which may be put through a half-inch sieve to rid it of rough material. This finer soil assists in quicker germination, while slugs are not quite so troublesome.

The New Pink Daffodil.—We are asked to state that the beautiful new deep pink crowned Daffodil described in our issue of April 16, page 190, and shown at the Royal Horticultural Society's Daffodil Show on April 5 and 6 was raised by the late Mrs. Backhouse of The Court, Sutton St. Nicholas, Hereford, and that it is Mr. R. O. Backhouse's desire that the seedling should bear the name of Mrs. R. O. Backhouse.

Planting Bamboos.—The hardy varieties of this plant may be planted almost at any time from October to May, providing the weather and soil are favourable, but the end of April is perhaps the most suitable. In making a new planting, the site chosen should, if possible, be sheltered from strong cutting winds and one offering partial shade is favourable, although the Bamboo will thrive in full sun if the plants do not lack root moisture until thoroughly established. It is a good plan to always water Bamboos soon after planting, even during winter months, so that the soil may get well settled round the roots. Established plantations should now be trimmed up and dead or decaying portions removed, and where plants are weakly, a mulching of manure should be given

The Judging of Vegetables.—At the last monthly meeting of the Twickenham and District Horticultural Society Mr. Montague of Ham House Gardens gave a lecture on "The Judging of Vegetables." The lecturer severely criticised the proposal of the Royal Horticultural Society on judging. After lengthy discussion the following resolution was unanimously carried: "That this Society strongly protests against the proposal of the Royal Horticultural Society to invite chefs to judge vegetable exhibits. That it constitutes an attack on the abilities of those capable gardeners who have hitherto performed these duties, and it is deeply resented by professionals and amateur gardeners and allotment holders alike."

A Useful Border Plant.—Tiarella unifoliata is a quite distinct species from T. cordifolia in that it is very much taller and bolder and it does not "run." The flower-spikes, which have a good deal more red in their creamy white than those of the common Foam Flower, ascend to a height of 2ft. and last many weeks. The foliage is large and handsome, but the leaves do not appear to assume such fine autumn tints as do those of T. cordifolia. To ensure the best results with T. unifoliata the plant needs deep cultivation and a cool soil into which has been mixed a liberal quantity of leaf-mould and old cow manure. A few half bricks or stones set into the root-run will prove advantageous. Under such conditions and in half-shade T. unifoliata makes a fine border plant.

Two Attractive Antirrhinums.—Of the many new Antirrhinums two at least should find a home in many gardens, viz., Lady Roberts and Sybil Eckford, both received awards of merit in the Wisley Trials. The former is a fine primrose self, and the latter delicate apricot pink on a cream ground, the colour resembling the old favourite Sweet Pea of this name.

FORTHCOMING EVENTS.

May 2.—Nottingham and Notts Chrysanthemum Society's Meeting.

May 3.—Royal Caledonian Horticultural Society's Meeting.

"BIG-BUD" OF BLACK CURRANTS

The Spring is the Most Vulnerable Period in the Life of this Pest. Take Action Now.

THE so-called big-bud disease is well known to those who grow Black Currants practically all over the country. It is a very serious pest once it gets established, as it spreads with great rapidity, and in many cases it has been found necessary to destroy whole plantations that have become infested with it.

Big-bud is due to a mite known as Phytoptus ribis, belonging to the family of Eriophyidæ, or gall mites. The mite itself is invisible to the naked eye, but its presence is easily detected by the unnatural swelling of the infested buds (see Fig. 1). These become greatly enlarged and rounded in shape instead of being pointed like the healthy ones.

When the normal buds burst into leaf in the spring the infested ones remain unopened and eventually shrivel up. If only a few mites are present, the buds sometimes open, though much later, but only produce stunted and deformed leaves, which shrivel up in early summer.

If one of these big-buds is cut across and examined with a microscope, it will be found to contain large numbers of white or cream-coloured mites (see Fig. 2). These are very minute, being only one-hundreth of an inch long, but are easily seen with a low power microscope, or even with a powerful hand lens, though it needs a high power to observe their structure. Their form can be seen from Fig. 3. The body is elongated and cylindrical in shape, tapering gradually towards the tail end. There are two pairs of short, thick legs situated near the head, each of which carries several bristles, and a finely feathered claw at the extremity. There is a short snout, and the upper surface of the front part of the body is covered with a kind of shield marked with a series of ridges and furrows. The body is composed of a large number of rings or segments, having numerous little projections on them. There are also five pairs of bristles, as can be seen from the illustration, the longest pair springing from the tail end. Probably all these bristles, and particularly the hind pair, help the mite in its movements within the bud and outside.

The mites live in the buds during the autumn, winter and early spring, feeding on the embryo leaves and blossoms within, and the irritation they cause produces the "gall" or abnormal growth referred to. Thus they are protected throughout the winter, and even severe frost has no effect on them.

When the affected buds begin to shrivel up in the spring, the mites commence to leave them and migrate. This is obviously the most vulnerable period of their life, beginning towards the end of April and continuing till the middle of June. During this period large numbers may be found wandering over the shoots and congregating at the base of the leaves, where they eventually make their way into the young buds which are forming for next year. Once inside, the females proceed to deposit their eggs, which are very numerous, and by the end of August the buds, full of young mites, show the characteristic swollen appearance.

It is generally useless to attempt remedies on bushes which are very badly attacked; the only thing is to grub up and burn them. Where the attack is not so severe some good may be done by spraying the mites during the migrating season with lime-sulphur solution, or dusting or "dry spraying" with a mixture of lime and sulphur. To be effective this must be done several times during May and early June. Some growers say that spraying with arsenate of lead has good results.

In gardens and small plantations the swollen buds could be picked off and burnt, but this could not very well be done on a large scale. Infested bushes should be pruned very severely and care taken to burn all the prunings immediately, as the mites begin to move about as soon as they are disturbed. For the same reason it is well, when picking off the buds, to drop them into a tin of paraffin as picked, and so prevent the escape of the mites.

Spraying during the dormant season with a strong winter wash containing 10 per cent. of carbolic acid has met with good success. This penetrates the big-buds and destroys them, mites and all, but does not affect the healthy ones.

As regards prevention, the chief thing is to plant only healthy bushes, carefully examining them and rejecting any that show the slightest sign of being infested. All cuttings for planting should be taken from bushes which are known to be free from this pest; otherwise, although no swollen buds are seen, it is quite possible that some of the mites are present.

RAY PALMER, F.E.S.

1 2 3 4 5 6

Fig. 1.—1 and 2, Healthy shoots; 3 to 6, Shoots attacked by the mite.

Fig. 2.—Section across a "big-bud," showing mites within (greatly enlarged).

Fig. 3.—Currant gall mite (highly magnified).

THE IMPORTANCE OF NETTING FRUITS

THE reply to "L. F. B.," Woking, on page 196, is of much interest and bears on a point of considerable importance to fruit-growers. In many districts birds are so numerous and so voracious that unless an admirable protective device is chosen they take a toll which is out of all proportion to the good work they do at other seasons. Their power of finding ingress through netting that is supposed to be penetrable by air and water only is positively uncanny. The most popular material for covering small fruits is tanned netting and, as generally arranged, nothing could be more unsatisfactory. It is more or less securely attached to uprights, and to gain admission the grower has to stoop and raise the curtain; the uncomfortable stooping position must be maintained as long as one remains within. On emerging, the curtain is supposed to be effectively closed, but all too often it continues in the supposition state and does not materialise to a fact. As far as human eye can see there is no breach, but the birds find one and enjoy the feast which their wisdom has earned for them.

In my opinion the one method of protecting small fruits from birds is by cages of small mesh wire-netting. These should be built in sections varying in size with the area and shape to be enclosed; there should be a door properly constructed and hung (two if the cage is a big one); and the whole of the roofing wire should be detachable, so that it may be rolled up for removal

easily and quickly when it has served its purpose. The one objection which has substance is that of initial expense. Wood for the frames, wire-netting, paint for the preservation of wood and wire, and labour are all costly. Against this must be set long life and efficiency. The fact that drips cause injury to growths is a disability and nothing more. There is always an element of danger with galvanised wire, whether it be in the form of strands or netting, but thorough painting renders this negligible, if not non-existent. Lead paint is excellent for the woodwork, but it is nearly valueless for galvanised work of any kind. For this the comparatively harder zinc paint must be used. Two good coats will preserve the wire for years. W. H. Lodge.

The Best Methods of Planting Dahlias

The Right Treatment of Pot Plants on their Arrival from the Nursery.

Now that the season is so far advanced and we are about to make our final selection of annual or bedding flowers it may be helpful to some to give a few hints upon the planting and culture of the Dahlia. In the first place let me assure readers that the Dahlia is no longer confined to that class whose blossoms persist in looking towards the earth so that all their beauty is hidden by such a display of modesty; neither are we, happily, confined to the huge rosette flowers of two decades ago. Like most other races of plants, the Dahlia has been improved almost out of recognition, and it is probable that some of the skilful cultivators of twenty-five years ago would hardly recognise the modern types as being the offspring of their old favourites. To-day we may make our choice from a number of different types or classes, a few of which I will enumerate.

The Cactus Dahlia, now to be obtained in almost every shade of flower except blue, the flowers of which in many cases are equal in shape to a Japanese Chrysanthemum and in most cases are borne upon stiff, upright stems.

For massing effects where a wealth of colour is required either of the two classes known as Pæony-flowered or Decorative may be used to very great advantage, and as many of these grow to a height of 5ft. or more they may be used as a background to dwarfer plants, or grouped together where plants of less vigour would be useless.

Star Dahlias are certainly the most striking introduction of the past few years, and as this type is of such great value as a cut flower it is quite safe to say that no garden should be without a few of these. For the benefit of any who may not know this valuable plant may I say that for freedom of blossom and lasting qualities these Dahlias are without an equal in late summer and autumn They may be obtained in pure white, yellow, orange, scarlet pink and many intermediate shades which can hardly fail to satisfy the most fastidious taste; more over the flowers are borne on stems which resemble wire rather than a Dahlia stem. Perhaps the most neglected type of Dahlia is the beautiful dwarf form known as Mignon and it can safely be said that these may be used for bedding purposes in any place or position where the ordinary Geranium or Calceolaria is so commonly used. The flowers are single, about 3ins. in diameter, and produce a wealth of blossom long after many bedding plants are spent.

A BED OF DAHLIAS BY THE LAKE SIDE.
The advantage of bold grouping is here plainly seen.

Other types having very useful decorative qualities are the Single, Collarette, Pompon and Show.

With regard to the time of planting out, I would say without hesitation that the best time for most districts is the end of May. In warm and sheltered districts it may be safe to plant about the middle of May, but in cold localities or in the northern counties the first week of June is quite soon enough for this work to be taken in hand.

The plants are usually sent from nurseries in small pots about 2ins. in diameter (or, to save railway carriage, turned out of such pots). Should the plants arrive before the proper date for planting, the best position for them is a cold frame. If such accommodation is not available the plants should be placed in as sunny a position as possible and covered over at night with an empty box or other similar shelter; this covering should be placed in position at sundown each evening.

In the selection of a site it should be borne in mind that the Dahlia revels in sunshine, but at the same time a situation which is sheltered from the east is often an advantage, as plants in such position often escape the earliest autumn frost.

In planting out the small plants it is very necessary to remember the rapid development of the Dahlia. Very strong growing varieties require to be 4ft. apart each way; most others require not less than 3ft. of space each way, and it is only quite the small growing varieties that should be nearer than this distance.

In manuring, it should be remembered that the plants are gross feeders, and as they also require abundant moisture the best form of manure is undoubtedly cow manure; this supplies not only food, but retains much of the moisture so necessary for their free growth. If the season is very dry copious watering is desirable about once each week until the plants are thoroughly strong and able to take care of themselves.

Before concluding, I would point out the essential need of a good stout stake to each plant, and in very wind-swept positions a triangle of three stakes round the plants is a very great protection: this prevents the side branches from being broken out It is unnecessary for me to give a selection of varieties, as this can be obtained from any catalogue. S

ANTIRRHINUMS AS ANNUALS

By Putting out early sown Plants at this Season the Snapdragon gives Wonderful Results.

THAT the Antirrhinum is a perennial in nature is unquestioned, and as such it was grown not many years ago. Cuttings were inserted in cold frames in the autumn as the correct method of perpetuation. Next it was grown as a biennial from summer-sown seeds with excellent results. There were, and are, however, thousands of amateurs to whom neither of these systems makes direct appeal. Then came the proposition that they should be cultivated as annuals, and we have to thank such great firms as Sutton's, Dobbie's, and Webb's for the wonderful success which has been achieved in this direction. Seeds from reliable sources, fortunately plentiful, a little heat and thoughtful care in the details of management alone are required to ensure flowers of exquisite colours from July onwards to the end of September in any garden in the land. Three months of continuous blossom should satisfy! And the season may be prolonged.

My original idea was to speak of planting out. Let us return to our muttons. When the stock was raised from cuttings and summer-sown seeds March was chosen wisely as the month for transference to flowering quarters, and with this phase of the matter it were waste of much wanted space now to deal. Our work must be of the future, not of the past. It is assumed that the seeds were sown thinly in gentle heat in February and the rewards of judicious management are manifest in the form of sturdy seedlings in frames. They are, doubtless, being dealt with under more or less Spartan rules, according to the courage of the grower. Nothing can be gained, and much may be lost, by excessive kindness; on the other hand, the gain in results by a little hardness, provided that it is governed by reason, is immense. Anyway, it is a point for individual solution, for the plants must be thoroughly hardened.

Accepting the fact that the soil is the most important thing in the universe and treading the orthodox gardening path, it shall be spoken of first. Whether we call our immediate subjects Antirrhinums or Snapdragons is not materially important, but it is of paramount importance to realise that they are among the least fastidious of plants. Where there is a cultivable depth of 8ins., with plenty of light and a modicum of fresh air, they will flourish. This is tantamount to saying that there is no garden in the country in which they will not grow and flower. That they have partialities cannot be questioned, but after growing them in the ordinary soil of a London backyard, in Bagshot sand and Farnham marl, in Banstead and Kettering loams, in a forked-over sandy path, and, as now, in a loving clay over Oxford clay of unknown, and personally uninvestigated, depth and concluding in each instance that the last has always appealed to us as quite as good as the best, I have failed to reach a decision as to what the ideal really is. Natural manures and concentrated plant foods of divers kinds have been employed and, except where the last named have been experimentally given with more generosity than wisdom, always to satisfaction. Thus I have come to regard them as most unfastidious, accommodating plants.

Two points are always acknowledged to be essential, and they are intimately associated—firmness of the soil and abundance of space. In the actual planting the soil is, unless it is clay on the wet side, trodden hard down to the roots, to the encouragement of stocky growth and abundant strong branches. It is more difficult to decide the precise distances, since there is undisputably some variation of vigour on different grounds, but in no circumstances should I place the plants closer than 15ins. in all directions, and the finest display I have had with the Intermediate group came with plants set 18ins. all ways. In some conditions 1 sq. ft. might be found ideal, while in others even 1½ sq. ft. might be exceeded with compensating advantages.

The time of planting must necessarily be governed by the weather and personal conveniences, but if a firm choice could be made I should plump for the last week of April and the first week of May. That the latitude is wide, however, I have proved to the point of demonstration. Just how early February-raised seedlings can be planted I do not know—a start has been made as early as the second week of April and as late as the third week of June, the former with conspicuously good results and the latter with satisfaction, though, of course, the flowering period was considerably curtailed. (It may be of interest to note here that in the last-named case the seeds were sown in a cold frame occupying a very warm situation at the end of March with Asters, Ten-week Stocks, Zinnias and other half-hardy annuals).

The disposition of the colours is so purely a matter of personal taste that I shall not attempt its discussion, save to say that I should throw all mixtures by the board except, perhaps, in a wild garden, and this I have never possessed. Modern colourings in the great groups into which Antirrhinums are now divided are so exquisite in their delicacy and so "nice" in their gradations that only a born artist can mingle them successfully, and I find myself much safer in massing.

HORACE J. WRIGHT.

THE EARLIEST GLADIOLUS TO FLOWER (G. TRISTIS).

A Sweet-Scented Gladiolus

THE earliest of all Gladioli to flower is the dainty and refined species, Gladiolus tristis; it would be welcome at any season owing to its fragrance but is especially so when it flowers outdoors, in April, before any of the varieties of the early-flowering class have begun to bloom. The flowers are pale yellow in colour, gracefully poised on a slender but wiry stem about 2ft. high. They are evidently adapted for fertilisation by night-flying moths, since the powerful scent is only exhaled late in the day. The scent has been compared with that of Magnolias, but it is perhaps more suggestive of Stocks or Rockets. Many flowers would be too strong for a small room, but a single stem with three or four blooms on it is delightful.

The foliage of G. tristis is remarkably rush-like and practically evergreen. It is, unfortunately, not quite hardy in cold districts and does not lend itself kindly to the usual practice of drying off the corms. I have a small clump, planted in the autumn of 1919 at the foot of a south wall, which flowered but sparsely last spring; this year they sent up a number of strong flower-stems and the first flower opened on April 8. It is evidently a species which likes to be left to become thoroughly established. Seeds should form a ready means of increase, and it would perhaps be worth while to try to cross the flowers with pollen of G. cardinalis and other varieties which could be brought on early under glass. A race of very early and fragrant Gladioli in different colours would be a valuable acquisition to our gardens. Gladiolus tristis is apparently a very variable species itself (or possibly has many local forms in different parts of South Africa); the form I grow is known as G. tristis concolor and has no markings at all, but varieties with purple lines on the upper segments are said to be well known. It is strange that such an attractive and interesting bulbous plant should be so seldom seen even where choice plants are prized.

Somerset. N. G. HADDEN.

The Polyanthus as a Bedding Plant

Present Sowing will Secure the Best Results next Spring

I HAVE heard these plants spoken of as everyday subjects, and in a manner that implied they were of little consequence; but I do not share this view, being convinced that as an outdoor flowering plant for early spring they are second to none. I use them for bedding mainly, and as a groundwork for the latest flowering Dutch Tulips. Never have they done better than this season. Early in March they were in bloom, and at Easter they were a picture. At a distance the beds appeared to be nothing but flowers. Against a background of dark evergreens the yellows were most conspicuous, and away from any reflection of this kind the reds, maroons and bronzes presented a sight not easily forgotten so early in the year. The plants were raised from the Munstead and Sutton's strains, and by careful selection the choicest varieties have been kept in their separate colours, and planted accordingly. For exposed gardens where the winds are too fierce for even the lovely Myosotis these plants are most useful, since they seldom show dislike of the worst winter weather. Some of the best I grow in pots, plants being lifted in October for the purpose and wintered in a cold frame. Early in January they are removed to a heated pit, where they soon begin to flower. They are then staged along with Primulas of all types, with so much success that I have heard those unaware of the difference in the species say they considered them quite worthy of their place not only for the sake of their flowers, but for their fresh green leaves, which develop under glass to an extent far in excess of those in the open. It is surprising how they respond to light feeding.

A GOOD WHITE MUNSTEAD PRIMROSE FOR MASSING.

Although not by any means a fastidious race, Polyanthus have their peculiarities which must be understood before they can be made a success. Summer sunshine is not agreeable to them, and drought is fatal. They will put up with almost any garden soil if it is in a shady position and is kept moist. As already mentioned, these bunch Primroses may be propagated from seed, and by division of the old clumps after flowering. To obtain plants for bedding out in autumn an early spring sowing is necessary. Germination is rather slow and uneven, and a little heat saves time. Sow the seed thinly in well drained pans of light sandy soil. Uniform heat and moisture is essential until the seedlings appear. When large enough prick out into boxes of similar soil, and grow them in a cool, shady frame until early in June. In the meantime select a shady corner and prepare the ground for them by digging in a liberal quantity of leaf-mould, a little old rubble, should it be deficient in lime and inclined to heaviness, and a light dressing of soot. Transplant with a good ball of soil to the roots, about 9ins. apart, and water if necessary. Throughout the summer keep the space between the rows lightly hoed, and, beyond an occasional watering, no further attention until lifting time is required. Raising these plants from seed is interesting, but it is not more so than the selecting of the choicest when they are in flower. These should be carefully marked, so that the stock may be increased by division. In average seasons they are past their best in May. Amid the rush of filling the beds with their summer occupants these plants often suffer neglect. Until they can be attended to, those for growing on should be heeled in out of the reach of the sun, for once they get really dry a lot of trouble is required to pull them round. The best pieces for growing on are the single crowns with roots attached that are to be found on the outside of each clump. If planted firmly and kept moist they soon establish themselves and give very little trouble.

AN ABUNDANCE OF WHITE AND YELLOW BUNCH PRIMROSES UNDER TREES.

A Shrub of Exceptional Beauty and Refinement

(ENKIANTHUS JAPONICUS)

THE Enkianthus are distinctly interesting members of the Ericaceæ family, the best known of which is E. campanulatus. E. japonicus, the subject of the illustration, is a deciduous shrub of upright, bushy habit, the branches arranged in tiers giving the plants a distinctive appearance. Growing up to about 6ft. in height, the small clusters of white blossoms are produced early in April. A second delightful period is in autumn when the leaves change to rich golden yellow.

This shrub is sometimes grown in nurseries as E. cernuus albus, but the true E. cernuus does not flower until May, with more flowers in a cluster, with downy stalks and fringed corolla. In E. japonicus the stalks are glabrous, and the corolla five rounded lobes On the occasion of a recent visit to the Bagshot nursery of Messrs. Waterer, Sons and Crisp we were surprised to see the magnificent specimen herewith illustrated growing under glass. As a pot plant it is a subject of exceptional beauty and refinement.

A native of Japan, E. japonicus is figured in the *Botanical Magazine*, tab. 5,822. The plants thrive in peat or sandy loam, growing under similar conditions to those suitable for Rhododendrons.

A BEAUTIFUL APRIL-FLOWERING SHRUB WHICH PRODUCES CLUSTERS OF WHITE FLOWERS (ENKIANTHUS JAPONICUS).

A Beautiful New Primula

NOT very much notice appears to have been taken by the horticultural Press of a small basket of plants of Primula limnoica exhibited at the Vincent Square meeting on March 8 by Lord Rothschild, and this was very probably due to the fact that there is a general similarity between P. limnoica and P. denticulata. P. limnoica was introduced to cultivation by the late Reginald Farrer, and flowered for the first time in cultivation (as notified on the above exhibit by Lord Rothschild) this year. I planted out two roots in the rock garden some ten weeks or so ago. They opened their flowers a few days after the above-mentioned exhibit was made and are now still in full beauty (April 13)

Though very generally similar in appearance to P. denticulata, there is a somewhat noticeable difference. The rosette of pale green leaves is much smaller and neater, although, of course, when the plants get well established they may develop in this respect. The single flower-scape produced by each plant this year rose to some 8ins. or 9ins. The colour on opening appeared to be almost identical with that of P. denticulata, but as the flowers matured a noticeable difference was observed, the yellow eye becoming gradually suffused with a richer colour passing through a reddish buff to a tone that is now almost a crimson, the effect on the whole flower-head being to render it richer and warmer in tone generally than P. denticulata.

The flowers have a slight perfume and, as already noted, are very long-lasting. My plants are in a sunny, favoured position, and I am hoping that seed will form and ripen and provide me with a good batch of plants for another year.

Ashtead, Surrey. FREDERICK G. WOOD.

THE CARNATION OF TO-DAY

How to Make Cuttings and Achieve Success with Modern Varieties

NO flower of recent times has made such marvellous progress as the Carnation. This progress is, perhaps, not so noticeable in the bloom itself as in the plants; they are stronger in constitution and practically proof against disease. Modern Carnations grow the entire twelve months of the year, and are much more easy to cultivate. Their stems and calyx are stronger, even their fragrance is stronger; in fact, in all respects Carnations of to-day are greatly improved plants to twenty-five years ago. The principal reason for this is that we understand their requirements better. Furthermore, the Perpetual-flowering Carnation is undoubtedly of mongrel origin and, like most mongrels, has a sound constitution. Its influence has been brought to bear upon the old British border Carnation, and we have the new perpetual border Carnation, which is more hardy than any Carnation, also blooms out of doors from spring to winter. The same with Dianthus Allwoodii, which is half Pink and half Perpetual-flowering Carnation; it is practically fool-proof and weather-proof. In short, the modern Carnation specialist in his work of raising new varieties and types thinks more of the garden itself and less of the flower show and individual perfection of bloom. Furthermore, this country is the Mecca of the Carnation world and supplies practically every country with new Carnations; which to-day are grown in thousands, where they were grown in hundreds quite a few years ago.

Cultivation of Carnations Under Glass.—I propose to deal with the Perpetual-flowering Carnation and the new hardy perpetual border Carnation jointly, because their cultivation is so similar. Their greatest enemy is that people do not realise how simple they are to grow, not only in the cold or mildly heated greenhouse but also in the open border. Carnations must have a cool, fresh, buoyant atmosphere when grown under glass; the ventilators must never be completely closed, while a good light is necessary. More Carnations are killed through kindness than through any other cause. Some do not seem to realise that frosts and cold winds do not kill Carnations, but overwatering and general coddling do.

Propagating.—We will begin the life of the Carnation at the cutting stage; it is the most convenient. Dianthus Allwoodii, and all Carnations except the old border section, are propagated by means of cuttings, while propagation by means of layering can, and is, employed by many. It will be obvious to all that the constitution of every kind of Carnation is preserved or destroyed, within limits, by the selection of cuttings; and not only by the selection of cuttings, but by the selection of the parent plants from which the cuttings are removed. Here we have the crux of the whole matter. You must have a strong, healthy cutting to make a strong, vigorous plant. You can deceive yourself, and may be able to deceive your neighbour, but you cannot deceive the inexorable laws of nature.

The Correct Cutting.—It will be found that the top cutting of a flowering growth has a leg or space between the parent growth and its first pair of leaves. This class of cutting is known as the "spindling cutting," and if these cuttings are propagated persistently a race of plants would be built up which would make a lot of weak growth and produce insignificant flowers. At the base of the growth a short, stunted cutting will be observed. This is known as the "dormant cutting," and makes a slow, robust growth, is very subject to disease, and by its use

he perpetual capacity of the plants is lost. The correct cuttings are produced between these two extremes, and they alone are the cuttings which matter.

Making a Cutting.—There are two ways of making a cutting, viz., the heel cutting, a side growth pulled from a flowering stem with a heel, and the piping cutting. It is generally recognised that the former is the superior, but if the correct piping cutting is used there is practically no difference between them. By the correct piping cutting I mean one pulled or rather cut with a sharp knife just below the third or fourth joint from a heel; others than these are of no value. The top of a long growth, if made into a cutting, must be wrong, because you only have part of the growth, and the worst part at that, so it will be impossible to obtain the best results. The same applies if you take the top of a young plant and imagine you have a vigorous, healthy cutting. It is ridiculous, and you simply deceive yourself; these must produce plants constitutionally weak.

Rooting Carnation Cuttings.—As to the best time to root cuttings, I favour December, January and February for Perpetual-flowering Carnations grown under glass, but autumn or spring for those grown in cold greenhouses. You can root them at any time of the year. Perpetual border Carnations and Dianthus Allwoodii grown entirely out of doors are best propagated in June, July, August and September. A special grade of river sand is the best medium to root the cuttings in, simply because the cutting roots with less effort and emits more rootlets in the first place. We favour a medium grade of sharp sand, but cleanliness is the secret of successful propagation, though shading and watering also play their part. Spraying and continually watering overhead must be avoided. If you have a span-roofed case, box or pot and 4ins. of sand at the bottom, dibble the cuttings into the sand and give a bottom heat of about 55° and a top heat of about 45° in the winter and, of course, no artificial heat at all in the summer, the cutting will take from three to four weeks to root. When you put the cuttings in the sand they should have a thorough watering, and the sand must never be allowed to become dry.

Hardening the Cutting.—It is unnecessary for me to emphasise the great importance of thoroughly hardening the cutting to withstand light and air previous to potting or planting.

First Potting.—The necessity of using a small 2in. pot in the winter for the first potting is a point which is beyond debate. In a small pot the cutting establishes itself with little loss of energy, particularly so if a medium soil, not excessively rich and with a free drainage, is used. A position in a light greenhouse or frame is ideal, providing the cuttings are shaded from the strong sun during the first few days.

Now we come to soil. If I gave definite rules and said you should do this or that, I should be foolish, because one man cannot tell another exact details in horticulture. You can only give ideas, and if I say you want to mix so-and-so with your soil, I do not know what your soil is. You want to know what the exact conditions are. When I was growing Carnations near Manchester, we did a good deal different from what we do now in Sussex. I say this—a soil must have a free drainage. That is essential. We do not mix any manure with our soil for the first potting, because our soil is rich enough without. If it was not, we should have to use manure. We mix mortar rubble or slacked lime, and I think you are fairly right in adding a little sand if the soil is of too close a texture, also burnt ashes. Carnations love potash. The young plant should be grown in a cool light with a night temperature of about 50° in winter or early spring. The point is, the night temperature should be even.

It is most essential that the plant should have a strong direct light, and only shaded from the strongest sun until the young plant is established. There is too much shading and coddling generally in Carnation culture. If you unduly shade a young plant, it has naturally a weakening effect. As soon as the young plant is established in a 2in. pot during the winter or spring we pot on into a 3in. pot. But when cuttings are rooted during any other period of the year we pot direct into the 3in. pot, and plants of perpetual border Carnations or Dianthus Allwoodii, intended for flowering out of doors, are planted in their permanent positions.

Stopping.—Every young Carnation plant (the old border type excepted) should be stopped when in the 3in. pot or as soon as the cutting is established in the garden, and taking an average, we will say at the sixth joint, and the plant should be growing vigorously when the operation is performed. It is wrong to pull out the point of the growth, but the top should be removed just above a pair of matured leaves, so that the remaining eyes are at an even state of maturity, and so produce a full complement of breaks.

Hayward's Heath. Montagu C. Allwood.

A RHODODENDRON FOR LAWN BEDS AND SHRUBBERIES

RHODODENDRON RACEMOSUM.

Many gardeners, when speaking of Rhododendrons, refer to the glories of Pink Pearl and similar varieties, so it is refreshing to be able to call the attention of growers to the beauties of R. racemosum, a charming dwarf species from Western China. During March it was a mass of bloom, the growths being covered with flowers not only at the apex, but the whole length of the shoots. It is quite hardy, of dwarf and compact habit, which renders it a suitable subject for the rock garden or in groups among other shrubs. The flowers are produced in dense clusters, white with a soft flush of rose pink, passing into bright rose at the tips of the segments. It thrives best in a peaty soil, but, failing this, a mixture of half rotted leaves, fibrous turf, and sand should be procured. These Rhododendrons are not deep rooting, so an annual top-dressing of cow manure may be given after flowering. R. racemosum can be increased from seeds, but if not required for propagating purposes the seed vessels should be removed immediately they form. In the rock garden this charming Rhododendron makes a fine show, its early flowering qualities making it doubly welcome. B.

RHODODENDRON RACEMOSUM AS AN EDGING TO A SHRUBBERY.

Among the many new species of Rhododendrons introduced to our gardens from China during the last thirty years R. racemosum is one of the most distinct and valuable. An evergreen, bushy shrub commencing to flower when only a few inches high and within two years from the sowing of the seeds, the most vigorous bushes may ultimately become 5ft. to 6ft., possibly more, in height.

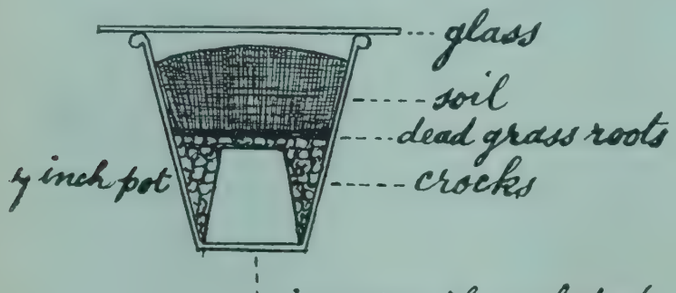
The flowering season is April and May, when, as the accompanying illustration suggests, the branches are laden with terminal and axillary clusters of blossoms. These vary in colour from white to rosy pink. For lawn beds, borders, shrubberies and large rock gardens R. racemosum is worthy of extensive planting. So freely does it seed that if the plants are not to suffer in health it is necessary to remove most of the seed-pods.

A native of Western China, R. racemosum was first introduced to France by Père Delavay in 1889. Since that date Mr. George Forrest sent home seeds collected in North-West Yunnan, where he found it growing in abundance. Mr E. H. Wilson also collected R. racemosum in Szechuan. Described as growing in limestone it is probable that the subject of this note will be found a useful species to grow in those gardens where Rhododendrons do not generally thrive

WHY SEEDS FAIL

The Raising of Seedlings is an Art in Itself which very Few Really Understand

IF the art and right practices of germinating seeds were universally understood, a bad time for the seedsmen would be the consequence. Nevertheless, there is no reason why every garden owner should not learn to be successful at it. The compost should consist of equal parts of old turfy loam, old leaf mould, and quartz sand, well mixed together and be the right degree of moisture, neither too dry, nor too wet, just moist. The drainage must be, above all, thorough, and for this reason the quartz sand should be a mixture of the three grades, fine, medium and coarse, proportioned to suit the seed to be germinated. This compost will do, with the addition of 2 ozs. of steamed bone flour per cubic yard of soil for pricking out the seedlings into boxes, and with the addition of lime (purest grade) and potash for potting up into thumb pots, 1½ ozs. of lime and ¾ oz. of sulphate of potash per cubic yard being the most suitable quantities. Seedlings



which hate lime should have wood ashes instead of the lime and potash, say 6 ozs.

Procure clean 7-in. pots and in each one invert a thumb pot, as shown in the above illustration. Fill in with crocks; over the crocks place a thin layer of dead grass *roots* (not dead grass leaves), then fill up with compost and firm the soil evenly, but not too hard. The seed should be sown as thick as Mustard and Cress (I can hear murmurings of dissent all round). Lightly covered with fine compost and pressed firm and quite hard. The top of the soil should be nearly level, except a very slight rise in the centre. If ordinary sized seeds are sown, water with rain water (freshly fallen rain for preference), through a fine rosed can until the drainage runs. In the case of very fine seeds, dip the pots in water to two-thirds their depth and let the water rise through the pot till the surface soil is wetted. Drain (being very careful to handle the pot gently), cover with a sheet of glass, over which place sheets of brown paper. The giving of more water as and when germination is proceeding should be with the greatest care and judgment, if damping off disease is to be avoided. Examine every morning and evening in order to give some air, and only give more water through a fine spray pump when the surface is actually dry. As soon as the seedlings show leaves, give some air by covering only two-thirds of the pots with the glass and remove the brown paper altogether.

Prick out the seedlings into shallow 2ins. deep boxes as soon as they can be handled, about 1in. to 1½ins. apart. In these boxes they will make especially fine roots on account of the steamed bon flour, which has an extraordinary vigorous actio on seedlings.

Finally either pot up into thumb pots or plan out into their permanent quarters. In the latte case they will establish themselves better and giv superior final results than imported adult plants Needless to add, each seedling should be lifte with a ball of earth attached to the roots. As th plants grow on, about the grand period of growth a weak application of nitrate, say ⅛ oz. nitrate o soda to the gallon of water, administered twice at an interval of ten days, will still further enhance the results. C. A. JARDINE.

SOWING LIKE MUSTARD AND CRESS.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Staking and Tying will now call for some attention on the herbaceous borders and also among creepers on walls. Among climbing plants on walls the young growths of Clematis require frequent attention, as they so soon become entangled. Roses and Honeysuckle are often prone to insect pests during early growth, which, as soon as possible, should be checked by thoroughly syringing the plants with a reliable insecticide.

The Kitchen Garden.

Beet.—The latter part of April and early May is the time to sow the main crop of Beetroot. It is not advisable to use ground recently manured, as this induces coarseness; a light, well worked soil is the best. On heavy ground holes must be bored about 2ft. deep and filled with fine soil, into which place several seeds, afterwards thinning to one. The holes should be 9ins. apart and the rows 15ins.

Seakale Beet, which is principally grown for its stalk and the midrib of leaf, may also be sown at this time, allowing in this case about 15ins. between plants and rows.

Outdoor Tomatoes should be placed in 5in. or 6in. pots and be kept growing close to the glass in cool conditions, thoroughly hardening the plants before putting them in their final positions. Unless a wall or similar place can be given them it is doubtful whether outdoor culture of Tomatoes is worth much labour being bestowed upon it.

The Hardy Fruit Garden.

Peaches and Nectarines.—As advised for Apricots, the thinning and disbudding of fruits and shoots should be gradually carried out, removing first of all in each case those badly placed. The shoots of paramount importance are the one at the base selected to furnish next season's fruit and the terminal one, which may in some cases be required for extension work, but more generally is retained to carry nourishment to the fruits below it. In cases where there is no fruit the whole of the energy may be concentrated into the basal growth by pruning back to it, unless it is intended to retain such wood for the development of the tree. Overcrowding must be avoided, and cleanliness maintained by frequent syringings with clear water, and occasionally, in early stages of growth, give a good syringing with some suitable insecticide.

Plants Under Glass.

Euphorbia pulcherrima, better known as Poinsettia pulcherrima, now calls for propagation. Growths from 4ins, to 6ins. long are suitable, and these should be taken with a heel and inserted as quickly as possible singly in small pots of light soil, and placed in the propagating pit. Euphorbia jacquiniæflora may be increased in the same manner.

Liliums growing in pots in frames must have abundance of air, removing the lights entirely on fine days. The stem-rooting species must be top-dressed as the roots show, using a nicely enriched compost to aid in development of the flower-spikes.

Acalyphas, when well grown and coloured, are most useful as decorative plants. Old, leggy plants will furnish cuttings, after which they may be pruned as desired and grown on another season if required.

Begonia cuttings should be potted when ready and grown on in a brisk, moist heat. To make large plants place three of the rooted cuttings in a pot and grow on undisturbed. A light, porous soil is the best medium, especially during early growth.

Fruit Under Glass.

Pot Strawberries.—As the season advances these require much looking after if they have to be grown on shelves near Vines and Peaches, for they are most prone to attacks of red spider, which will sometimes defy the best of attention. Plants with ripe fruits must be removed to quarters where risk of spider spreading is reduced to a minimum. Plants in earlier stages must be well syringed several times daily and never allowed to become dry at the roots. The last batch will give excellent results in cold pits or on shelves if conveniently arranged in the cold orchard-house.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cucumbers.—Plants in fruit require constant attention so that the bearing period may be prolonged. Cut out any old growths which have fruited and tie in all young shoots without unduly crowding the trelliswork. Also cut away all superfluous growths and give regular waterings of liquid manure. From seed sown now nice plants may be had in about four weeks' time for planting out in frames or on hot-beds which have been used to raise bedding plants. Blair's Prolific is an excellent sort either for pit or frame culture.

Potatoes.—Finish the planting of late varieties, while early sorts which are through the ground should receive attention by protecting from late frosts. If not too far advanced the soil may be drawn over the crowns, otherwise a few feathery Spruce branches laid down the rows afford the necessary shelter and are easily removed. Where a quantity is grown in frames the sashes should be pulled off during fine weather and so keep the haulm sturdy.

Turnip-Rooted Beet.—A sowing of this type might now be made for early use, and we find none to better Sutton's Globe, its finely shaped roots being a great advance on the ordinary Egyptian variety. Sow in drills 15 inches apart on ground which was well manured for the previous season's crop. Recently manured ground tends to coarseness, with the result that many are worthless.

Cauliflowers.—Plant out successional lots, and if raised in boxes or frames, lift with a ball of earth attached, while if the natural soil is heavy a trowelful of old potting soil gives them encouragement to start.

Soil For Tomatoes.—As the main batch will now be ready for their fruiting quarters it is essential that the border be renewed, as the Tomato is most exacting in its demand for certain chemicals, more particularly potash. The old soil should be excavated to a depth of 15 inches

ıd replaced with virgin loam and a quantity gritty material; also add, if available, some ood-ashes, as I think there is nothing better r the production of well flavoured and well ıished Tomatoes. Refrain from using farmyard r other manures meantime, as this causes excessive ıxuriance and is a bar to fruitfulness; rather ait till several trusses are well set and swelling, hen a good mulching may be given and then atered in.

Fruit Under Glass.

Melons.—Where the grower is largely dependent n sun heat for growing his Melon crop now is quite reasonable time to sow the seed. If intended or frame culture a hardy variety should be chosen, ut if a hot-bed is available to give them a good tart many of the more choice varieties will do uite well. Sow the seeds in 3in. pots and erminate in a warm house. When planting into he frames use good sweet loam with a sprinkling f old lime rubble, placing the compost in the rames some time before planting so that the soil ıay be thoroughly warmed.

The Pleasure Grounds.

Ivy on Walls.—Any necessary clipping should ıow be done and in a short time the walls will be clad with a beautiful fresh covering of green Regular clipping is of much benefit to the Ivy.

The Bog and Water Garden.—As growth is well started in the bog garden one can now see where any necessary clearing out may be done, as there is always the chance of the stronger-growing reeds and grasses ousting the more delicate little water plants. Ranunculus Lingua and Villarsia Nymphoides must be kept within bounds, as also Glyceria spectabilis fol. var. This is undoubtedly one of the prettiest of the aquatic grasses, the young growth just now having a charming pink tinge, afterwards changing to a fine golden variegation. Water Lilies may now be planted, using shallow baskets for this purpose. The Astilbe family are charming subjects for the edge of the bog, A. Ceres and A. New Rose being valuable additions.

Transplanting Evergreens.—Box, Yews and many other evergreens can be successfully moved at this time, and there will be few failures providing the work is carried out just as new growth commences. Hollies also move well up to the middle of May, but copious waterings must be given if the weather is dry.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CORRESPONDENCE

THE ORIGIN OF THE NAME CLIVIA.

THIS greenhouse plant was referred to by the writer of the southern calendar, in your issue dated April 2. It would seem interesting to mention (to the said writer in particular, for an obvious reason), that the Clivia was so named after the Duchess of Northumberland, a member of the Clive family. This statement is recorded in an old copy of Johnson's Gardener's Dictionary I have, though which Duchess is not given, but the above Ducal title was created in 1766. Incidentally, and in addition to Mr. Turner's poetical references to this plant, it should be noted that the Clivia is a capital window or room plant. I remember, especially, a good plant in an 8-in. pot which used to flower in a cottage window in a neighbouring county; while, apart from the blossom, the clean, strap-shaped foliage of the Clivia is quite ornamental at any time.—C. T., *Ampthill.*

EARLY FLOWERS AND THE MILD SEASON.

THE first flowers of Abutilon vitifolium opened the first week of April. This is usually a June-flowering tree. Last year it was in full flower in May. It is then a lovely sight, crowded with pale porcelain-blue flowers; these last well when cut, if the stem is peeled for an inch or two and put in warm water, which I find is best for all flowers.—Western Wight.

AN ATTRACTIVE FLOWERING SHRUB.

ANYONE not acquainted with Azara microphylla might well be puzzled to trace to its source the distinctive yet elusive odour of vanilla borne on the breeze and scenting the air for some distance round a mixed border in which the shrub was growing. The small yellow flowers owe their colour to the anthers and, being borne on the underside of the branches, are almost hidden by the numerous dark, glossy evergreen leaves. The situation should preferably be fairly warm and sheltered, but where it will grow well the shrub quite deserves a place. After the heavier and somewhat overpowering scent of the Mezereon the fragrance of Azara microphylla is distinctly [illegible].—E. Sims, *Wisley.*

A DOUBLE-FLOWERED CYCLAMEN.

I SEND the flowers of one of my seedling Cyclamen. I thought perhaps it would be interesting to you, as I have shown it to several people round here who think it very good; its

A REMARKABLE CYCLAMEN RAISED BY A READER.

form is like a white Rose, as you will see.—George Malin, *The Gardens, Leicester Grange, Hinckley.*

[This is the best instance of a double-flowered Cyclamen that has been brought to our notice. The flower has the texture and solidity of a good double Rose. It is quite an interesting novelty. —Ed.]

BLUE WOOD ANEMONES.

SOME months ago there were two articles in The Garden by "Somers" on the wild flowers seen on a tour in Cornwall. I wish "Somers" could see the moorland just now, here in the neighbourhood of St. Ives. Between the yellow trees of Gorse the turf is sprinkled for miles with Anemones, and many of these are not white, but blue. I knew blue Anemones were found in Cornish woods, but never hoped to find them in such profusion on the open moor. Some are of the palest grey blue, as if faintly shadowed by a cloud; others are just like A. nemorosa Robinsoniana of gardens; others, again, are of the colour of blue Hepaticas, and a few are as deep as the neighbouring Dog Violets. One can also find flowers of a clear uniform pink, some of a creamy white which might almost claim to be yellow, and some of a pale lilac with a darker centre. It is noteworthy that the blue flowers are generally smaller than the white ones and often have twelve petals instead of six. Is it possible that the varied forms are the result of crosses between the white species and a smaller purplish blue sub-species? Has such a sub-species ever been recognised by botanists?—Zennor.

HELLEBORES AS CUT FLOWERS.

I STILL maintain that the best way to put the Lenten Rose in water, so that its full beauty shall be seen, is to float it. I can assure "E. M. G." (see page 192), that I have tried cutting the stalks over and over again, but with only partial success. Some of them will live and others will wither at once. The whole point of the matter seems to be this. The Lenten Rose naturally hangs its head down. To see what it is like you have to put your finger under its chin and lift its dear little face up before you can tell, and then one of its greatest beauties is revealed, that is the stamens; wonderful if you look at them through a magnifying glass. Now, if you put them in water, so that they hang their heads, this beauty is lost to a great extent, but if you float them, it is fully revealed in all its glory. But after all, this is only my private opinion.—A. H. Upcher.

IN a recent number of The Garden a correspondent advocated the floating of Lenten Hellebores, because they would not last in water with stems. That is not my experience. The late Mr. T. H. Archer-Hinde of Coombefishacre, South Devon (who originated the hybrid Hellebores), told me that if the stems were split up about 2ins. (two slits to divide the stem in four), and give them plenty of *warm* water, they would last for a week or more, and this is absolutely correct. If you give them fresh warm water every three or four days, they will last quite two weeks, and every bud develops. Mr. Archer-Hinde told me he had collected every species of Hellebore he could hear of and hybridised them. He had a wonderful collection of lovely forms and colours. When about ninety-three years old he told me he had given Messrs. Barr and Sons a quantity of his best forms so that they might not be lost to the horticultural world. He was in his ninety-seventh year when he died in 1911, and had been a "gardener" from the time he was seven or eight!—Western Wight.

THE IDEAL FREESIA.

I AGREE with Mr. Jacob's remarks (April 16, page 185) as to the type of flower to go for, and I personally take the variety Apogee as my ideal, which was raised by Messrs Van Tubergen in 1909, and who have done so much in raising new varieties. They are the raisers of most of the varieties in commerce. Apogee has size, substance, sturdy growth, rather on the dwarf side, good stout petals which open fully and at almost right angles to the tube, showing the whole of the flower far better than the half-closed types. But I must say I should not discard Treasure for not being as open a flower as Apogee, for it has many good points and is, I think, a very fine variety. The purplish markings fade as the flower fully develops, and are less noticeable as the

THE NEW FREESIA GOLDEN KING.

flowers go off. I think it was worthy of the award given. Perhaps before long Mr. Jacob or I can raise one of a perfectly clear colour and with more open flowers, retaining the size, substance and growth of Treasure. I am inclined to think, judging by the results I get, that size and bright colours do not go together. All the brightest colours have small flowers, but this I hope I can overcome before long. Rigid selection is necessary and over 75 per cent. of the seedlings of 1919 have been discarded. The ideal, in my opinion, must have good size, sturdy growth, stout stiff stems, substance in the petals, be of the open type of flower, and have good scent and bright clear colours.—G. H. DALRYMPLE.

P.S.—Golden King has many good points. The flowers are bright yellow with the three lower segments a very rich golden yellow, and a deep orange lip. It is tall, erect-growing, on very stiff stems, and possesses a remarkably strong scent; a few blooms will scent the whole room. It is a late bloomer and now, after all the other varieties are over, it is still going on. It fails in size and shape to my ideal flower, Apogee. The flowers of Golden King are not so large and not so open; but its many good points were recognised by the Royal Horticultural Society Floral Committee, who gave it an award of merit in 1920.—G. H. D.

I QUITE agree with Mr. Jacob in his article on page 185. As the Freesia is a near relative of the Gladiolus, the round, fat flowers are plebian and far from aristocratic, like some of those with suggestion of wings which Mr. Dalrymple put up on March 8. But if Mr. Jacob is warm in his praise of this exhibit, what would he have said of Mr. Dalrymple's exhibit of March 22, which covered a three-tier tabling 20ft. in length? Everybody who saw them agreed that it was the finest Freesia exhibit ever staged. Most of the flowers were arranged to look at the observer, as in arranging Daffodils, but there was no formality about them, for the Freesia in its habits does not allow of that. It is not the first time the Royal Horticultural Society have failed to value in full, cultural refinement in certain flowers, and I think Mr. Jacob's article justifiable and opportune—and there are few better judges of what a Freesia should be.—C. A.

MIDLAND DAFFODIL SHOW

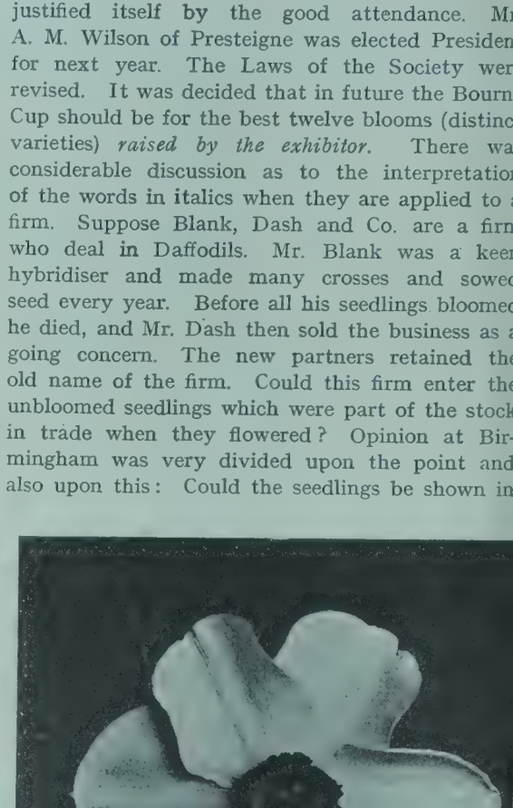
The Pied Piper Plays—"Well Done, Trade"—White Trumpets to the Fore—J. J.'s Selections

APRIL 13 and 14, 1921, have come and gone, and so has the Midland Daffodil Show at Birmingham. Up to the eleventh hour it was extremely doubtful if it would be possible for it to take place, but with the brighter outlook on April 11 it was finally settled to go through with it. The decision was justified. Birmingham is still a powerful magnet to draw Daffodil flowers and Daffodil people to the great inland city. Mr. E. H. Krelage came all the way from Holland. The Donard Nursery Company (that is Mr. Slinger) and Mr. Guy Wilson braved the perils of the sea and land and brought large and fine exhibits from Ireland. Mr. Herbert Chapman turned up with a few of his best from distant Rye. The Anglesey Bulb Growers' Association sent their secretary, Mr. W. A. Watts, with some of their famous Welsh-grown Daffodils, including the Prime Minister (a large white trumpet) and Mrs. Lloyd George (a good Giant Leedsii with a fawn coloured cup). Messrs. Barr and Sons faced the music, and there was one of their old time Gold Medal exhibits in the same old place at the end of the conservatory when the judges went round. Mr. W. A. Milner, who lives among the dales of Yorkshire, did not forget us, and brought over a good many nice seedlings of his own raising. Birmingham's good name stood it in good stead in the emergency, and if the number of flowers staged was much below the average, there were plenty of good things to be seen, and all there seemed to be of a universal opinion that after our bad luck last year in having to put off the show owing to an abnormally early season, it would have been a thousand pities had there been another blank year in 1921.

Distinguishing Features.—The rally of the "trade" was one. Including the group of Mr Guy Wilson, who occupied the place usually filled by Mr. Engleheart, there were six fine large exhibits. Two—those of Messrs. Barr and Sons and the Donard Nursery Company—received gold medals, and well deserved the honour. Then it was all to the good and very pleasing to see our old friends, Messrs. Cartwright and Goodwin, and a new exhibitor in the person of Messrs. Webb and Sons of Stourbridge, who staged a representative collection of the best lower priced varieties suitable for gardens. The second feature was the number of entries in the white trumpet class for six varieties of white trumpets. There were five competitors, and among those thirty blooms there were some excellent flowers. It was very striking to see White Knight, which to me will always be associated with the name of the late Miss Currey, more than holding its own among all the splendid novelties of the present. The Donard Nursery Company were first, Mr. Guy Wilson second and Dr. Lower third. Mr. E. H. Krelage was also a competitor. It was very plain from the family likeness of his blooms that they had been deliberately selected A close inspection showed how different they were from the English type as seen in the prize-winners. In these symmetry and refinement were all-important factors; whereas, in the Dutch, poise of bloom and garden utility were what were primarily aimed at. I was greatly interested in all Mr. Krelage said on the subject.

The third point to notice was the excellent flowers staged for the Bourne Cup, for which on this occasion, the flowers shown need not have been raised by the exhibitor. Dr. Lowe was first and Mr. Herbert Chapman a very good second.

The General Meeting was held at 4 p.m. on the afternoon of the first day, and the innovation justified itself by the good attendance. Mr. A. M. Wilson of Presteigne was elected President for next year. The Laws of the Society were revised. It was decided that in future the Bourne Cup should be for the best twelve blooms (distinct varieties) *raised by the exhibitor.* There was considerable discussion as to the interpretation of the words in italics when they are applied to a firm. Suppose Blank, Dash and Co. are a firm who deal in Daffodils. Mr. Blank was a keen hybridiser and made many crosses and sowed seed every year. Before all his seedlings bloomed he died, and Mr. Dash then sold the business as a going concern. The new partners retained the old name of the firm. Could this firm enter the unbloomed seedlings which were part of the stock in trade when they flowered? Opinion at Birmingham was very divided upon the point and also upon this: Could the seedlings be shown in



CAEDMON, ONE OF THE MOST STRIKING OF THE POET NARCISSI.

name of the firm when Mr. Blank did all the ridising, or must the flower be entered in his n name? This, of course, refers to the time ore the firm changed hands and when Mr. nk and Mr. Dash were carrying on the business. is a vital point if traders enter for open com- itive classes, as I think they should do if they ve good enough varieties to put up.

Some of the Best Flowers.—Old friends which met in London in the previous week appeared ain, such as Tenedos, Royalist and Lady imrose. The first two of these are top hole ow varieties. I was glad to have another look them to confirm my previous good opinion of eir merits. Lady Primrose is not far behind. o me the three outstanding flowers in the rmingham Show were St. Dorothea, a faultless ire white Ajax with a narrow sharp-edged umpet and with a perfectly smooth overlapping, ointed perianth, 4ins. in diameter. Like White mperor, it is on the borderland of trumpets and eedsiis. It is the first seedling that I have en of the late Mr. James Coey's raising. Those ho know the story of St. Dorothea will see an ppropriateness in the name now poor Coey is ead and gone:

" Dorothea sends them, and she goes
Before thee to the garden whence they came,
And doth await thee there."
—" A Vision of Saints." Lewis Morris.

The second flower is like unto the first inasmuch as it, too, is wholly white, but there the resemblance ceases, for it is a flat centred Leedsii with quite a family likeness to Moonbeam, but in every way it is a better flower. The Brodie of Brodie, who raised it, may well be proud of it. It is named Silver Salver—surely a far too prosaic name for such a demure beauty.

The third of the three was a seedling raised by the late Mr. H. D. Phillips, who must have been one of the very first of us Daffodil people to be killed in the war. It is a Barrii with a pure white perianth, 3½ins. in diameter, and a beautiful soft orange brick-red eye, 1in. in diameter. I think these soft shades harmonise so much better with almost dead white perianth than any darker or brighter tone, and what most of all appealed to me was the perfect proportion of the eye and the perianth. Like the "Three Old Maids of Lee," I am a bit over-particular perhaps, but in Sacrifice, which I hope will be the flower's name, I have found one that comes up to my ideal.

Rosary, shown by Mr. Chapman, and B 248/12, shown by Mr. Guy Wilson, can be bracketed, inasmuch as they are swallows which herald the need of a new definition of bicolor trumpets. Rosary has a pale pinkish fawn and B 248/12 a true fawn coloured trumpet. I thought the colour of the last named particularly pleasing. Dr. Lower, of course, had some very nice blooms. The Sahib, one of the fast increasing number of what for want of a better name I call semi-poets, is a very delightful flower on the small side, being only 2½ins. from edge to edge, with a bright yellow eye edged with just the right shade of red. 850 was another of these semi-poets but of quite a different type. The inner segments of the perianth were inclined to incurve and the eye was more graduated in its colour scheme of green, yellow and red. The flower had a diameter of 3½ins. Three seedlings of Pinkie in the small flower class were gems; one, I hope, may figure in the Midland report. They were what our sisters would call "little dears." The poet Caedmon—broadly rimmed dark red and having a rich green eye—was well shown in Barr's group.

Cordon Ronje, a large-centred incomparabilis, raised by Mr. Herbert Chapman; Mr. Krelage's striking yellow trumpet 318 and his pretty Leedsii, Clio, with its lemon-edged cup; Mr. W. A. Milner's Dovedale, a clean, smooth flower after the type of Miss Willmott; Racehorse, the shapely yellow trumpet with that dash of riflex in its perianth that Lady Moore might liken to a mule turned stupid but which seems much nicer to describe as "won by a head," raised by Mr. Guy Wilson; and Leontes a good show incomparabilis, practically a self and with a diameter of 3⅝ins., which brings my list to a close. Other eyes will have spotted other flowers. Personal taste is still of immense weight in our selections. Before this is changed the Daffodil will have to have been a show flower the same number of years as the Auricula and the Tulip. JOSEPH JACOB.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

TULIPS ATTACKED (K. M. C., Surrey).—The Tulips are attacked by "fire," and this is due in the first place in all probability to cold winds or frost which have exposed the plants to attack of the fungus Botrytis cinerea (or parasitica). The fungus is also present in the soil, which has doubtless caused the failure of the beds of Tulips mentioned by our correspondent. Avoid planting in these beds in future.

DAFFODILS UNSATISFACTORY, AND OTHER QUESTIONS (R. H. S., Crosshills).—We recommend our correspondent to give the Daffodils a dressing of bone-meal, using the finest quality now, and take care that the leaves of the plants are not removed until they die down naturally. Sea-sand differs so much in sharpness that we cannot say with certainty whether it would answer our correspondent's purpose. If our correspondent wishes to use it to mix in potting soil, it must be washed very thoroughly until the salt it contains is all removed.

HERBACEOUS PÆONIES, AND OTHER QUESTIONS (Felsted).—It is quite possible to procure inexpensive single-flowered Pæonies from any of the leading nurserymen who specialise in herbaceous plants. These plants do not object to a moderate amount of lime in the soil. Bone meal and fish manure may be given with success, but not in large quantities. It is a good plan to thin the shoots when a few inches high by the removal of the weak ones. There is certainly a white-flowered Lavender; it is a variety of common Lavender, but is really inferior to the type.

PHLOX STEMS SPLITTING (J. D. C., Glasgow).—Various causes possibly contribute to the splitting of Phlox stems, and it is therefore difficult to advise on means of avoiding it. A species of Tylenchus (an eelworm related to the one which causes the too well known disease of Narcissus) is often a cause in all probability, and there is no known practicable means of dealing with this pest when once soil is infested, short of avoiding the cultivation of susceptible plants entirely. A dressing of potash (sulphate of potash is best to use at this time of year) at the rate of 1oz. to the square yard may be of some assistance.

SUMMER PLANTS FOR BEDS (J. M., Hereford).—Our correspondent cannot do better than employ tuberous Begonias in distinct colours for all the beds, save that of diamond shape. That one might be planted with the pink-flowered Ivy Pelargonium Mme. Crousse. The Begonias are now available in the dry state and should be started preferably in greenhouse or frame in boxes of damp coconut fibre or light soil. They may be had in separate colours, white, pink, salmon, scarlet, crimson, orange and other shades or in mixture as preferred.

PLANTS FOR A DITCH (W. S. G., Braintree).—Water Lilies may be planted in the brook where the water is 12ins. or more deep; any of the hardy kinds can be planted, from the common white to reds, such as William Falconer and fulgens. It is possible to procure plants to place in position at the present time. In the water may also be planted the Flowering Rush and Typha angustifolia. In wet places about the margins may be planted Primula japonica, P. rosea, P. sikkimensis, Mimulus luteus, Iris Kæmpferi, Rodgersia podophylla, Osmunda regalis, Iris sibirica and Senecio clivorum. A little further from the water a few clumps of Bamboos might be arranged. Bamboos could be planted now, but most of the other plants should be placed in position next autumn.

DOUBLE PRIMROSES (Miss U. S.).—Our correspondent's description of double-flowered Primroses assuming the Polyanthus habit is exceedingly interesting, and so far as we know is a unique experience. We have known the common Primrose behave similarly for one season and the next, to our disappointment, produce its flowers in the ordinary single-stemmed manner. The temporary nature of this umbellate Primrose was the more disappointing because all the flowers had only four petals each and we had long been anxious to fix this type, but without success. As our correspondent's umbellate and double Primroses also bear single-stemmed flowers, we fear she may not succeed in fixing this most desirable form. We advise our correspondent to mark the plants and observe them next year, when we hope to hear of their behaviour. We suggest, if possible, that seed be saved from the Polyanthus-like double flowers and see if any of the seedlings perpetuate the habit. As our correspondent no doubt knows, perfectly double flowers do not produce seeds, but we should expect seed from the flowers described.

TREES AND SHRUBS.

TREATMENT OF MAGNOLIA CONSPICUA (H. C., North Lancs).—It is not advisable to prune a tree of Magnolia conspicua severely, for old Magnolias are impatient of both root and branch injury. It would therefore certainly be unwise to remove the large branches, but they may be shortened by 3ft. or 4ft., taking care to make clean cuts and to protect the wounds by coal tar. It is probable that by shortening the two vigorous main branches additional food material might be directed to other parts of the tree that are now becoming weakened, thereby strengthening the weaker branches.

THE GREENHOUSE.

TOMATOES ATTACKED (W. M., Dorking).—The Tomatoes are attacked by the black spot disease, the result of a bacterial attack through the end of the fruit where the style drops away. An important thing in the checking of this disease is to treat the fruits so that they do not crack. Keep the water supply regular and sufficient all along. Sulphate of potash at the rate of 1oz. to the 2-gallon can should be applied once a week, as the skin is improved by it and is less liable to crack. The diseased fruits should be removed and burned.

ROSE GARDEN.

ROSE TREES UNSATISFACTORY (F. R. C., Hants).—Possibly the Roses were injured by the severe frost in December. It came so suddenly and the plants were then very soft owing to the mild autumn. There is no disease. If the roots look black the plants had possibly suffered before our correspondent received them.

MISCELLANEOUS.

SMALL BLACK FLIES IN THE GARDEN (W. G. B., Hants).—We should like to receive specimens for identification then, perhaps, we could assist our correspondent more. Smoking is usually effective in preventing annoyance from flies.

CLEANING A POND, AND OTHER QUESTIONS (E. E. B., Kent).—All that can be done to improve the pond is to clean it out thoroughly. If there is no natural outlet for the water it will have to be pumped out, but if there is a brook or river within easy distance it may be possible to lay a drain by which the water could be led away. From what is said about the lawn it would appear to need draining. Draining at a depth of 12ins. or 15ins. would probably be sufficient to improve the grass. It might also be advisable to remove a few of the neighbouring trees to let in more light and air. Climbing Roses could be utilised on the lawn, but it is doubtful whether herbaceous plants would succeed in the position mentioned, by reason of the shade and the roots of the trees. Ferns would probably succeed in the position, however. Delphiniums and Lupines would last for a short time in pots for house decoration, although not very good plants for the purpose.

NAMES OF PLANTS.—C. S., Berks.—Billbergia nutans. ——T. L.—Veronica serpyllifolia.——Daisy.—The plant described is undoubtedly Agathæa cœlestis, a native of South Africa.

SOCIETIES

THE GARDENERS' PROVIDENT SOCIETY.

THE monthly meeting of the United Horticultural Benefit and Provident Society was held in the R.H.S. hall on Monday, April 11th, Mr. Chas. H. Curtis presiding. One new member was elected. Six members were allowed to withdraw interest amounting to £19 13s. One member withdrew £66 15s. 7d. from his deposit account, being over seventy years of age, and the sum of £3 9s. 5d. was paid to one lapsed member. The sick pay for the month on the private side amounted to £42 7s. 4d., State section £58 14s. 9d., and maternity claims to £10. It was resolved that a dinner should be held on second day of the Holland House Show, July 6, 1921. Anyone wishing to be present should send in their name to the secretary (A. C. Hill, 35, Alexandra Road, West Kensington Park, London W.14), ladies are especially invited.

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Fire King—Glowing orange scarlet with white throat.
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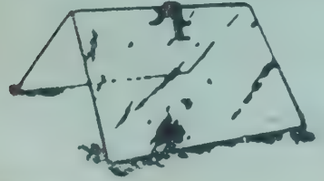

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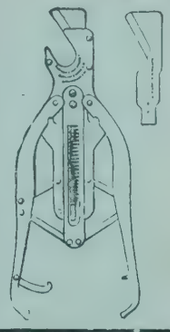

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THE GARDEN

No. 2581—Vol. LXXXV.]

NOTES OF THE WEEK

[May 7, 1921.

An effective colour scheme for an herbaceous border, suggested by a reader, is to group the plants according to the prismatic colours, arranging them so that the colours glide imperceptibly one into the other as they do in the rainbow. Green, of course, is intermingled with all the colours in their leaves. It can be introduced among the flowers of spring in the delightful Daphne Laureola and the green Hellebores. The colours may be arranged thus: Scarlet, toning down through tawny red, brown and crimson to rose and pink. Cream and white plants may be introduced to prevent any clashing of the shades. The palest pink merges into the palest yellow, which increases in tone to deep yellow and orange. The deepest golden and orange should be next to deep blue. Silver-leaved plants should be planted among the orange and golden coloured plants. The blue should be planted in tones until the very palest blue is reached. It should be succeeded by "faintest, clearest lilac," increasing in tone to mauve, violet and royal and deep purples. Should a screen for climbing Roses be placed at the back of this border it adds greatly to its colouring. Roses to tone with the colours should be planted. For instance, Paul's Scarlet Climber at the back of the scarlet section and Lady Godiva at the back of the pink section.

A Handsome Climber for the Stove House.—Beaumontia grandiflora is a climber that has never become very popular, perhaps owing to the space required for its full development. It is best trained over the roof of a house with stove heat. It is a rapid grower and requires hard pruning every year, as one would do a Vine, plenty of light and very little shade. A fine specimen, trained over the roof of the Banana house at Panshanger, Hertford, over twenty years ago, with its large bunches of pure white trumpet flowers hanging downwards and its large smooth, shining leaves as a background, was very handsome. When first it flowered at Panshanger, it created no small stir in and about London.—J. Anderson, *Clacton-on-Sea.*

A Bed of Double Wood Anemones.—An unusual sight in a garden is a large bed full of the double variety of the Wood Anemone, A. nemorosa fl.-pl. When so grown this flower is wonderfully effective, although many would prefer a more natural-looking way of arrangement. On the first of May a bed some 6 feet or 8 feet long by 3 feet or 4 feet wide was a mass of the lovely imbricated pure white flowers of this double Wood Anemone in the garden at Benview, Kippen, Stirlingshire, a garden, by the way, with a splendid variety of hardy flowers.

A Beautiful Pyrus.—Among many attractive flowering trees of moderate size, Pyrus (Malus) spectabilis var. flore pleno is very conspicuous during April. A round-headed tree, 20ft. to 30ft. in height, this double Pyrus produces a profusion of blossoms, in the bud state rosy-red, opening to rosy-pink. It is a native of North China and is a very old occupant of our gardens, being figured in the Botanical Magazine tab. 267.

Oxalis enneaphylla rosea.—Because of dainty grace or delicacy of flower colour not a few of those who indulge in the choicest hardy flowers are tempted to put plants so endowed under glass—alpine house or frame. To give it glass protection of any kind is a mistake; all its exquisite flower beauty is lost thereby. More than that. Coming into flower quite late in April or in May when warmer conditions are expected, the plant quickly becomes drawn and its good character destroyed. From other points of view—the plant being quite hardy—protection on the lines indicated is as unnecessary to its safety or well being as it is bad in effect. Conversely, the best place for it is a cosy sunny nook in the rock garden or a good position in narrow border of choice things. In either it would be quite content and the washed pink charm of its florin-large flowers fully revealed. Positions of extreme dryness are to be avoided.

Freesias Sent by Aeroplane.—We have received by aeroplane a choice collection of Freesias from C. G. Van Tubergen, jun., the well known raiser of new Freesias at Haarlem, Holland. The outstanding varieties are Apogee, pale primrose; Amethyst, soft silvery lilac; Buttercup, deep primrose; Success, primrose; Conquest, rose pink; Jubilee, white suffused carmine; Mouette, creamy white suffused with rose; and Le Phare, bright carmine. They arrived in excellent condition and were exceptionally well packed.

The Bergamot Mint.—In the Thames Valley districts, and probably elsewhere, the ubiquitous plant vendor makes quite a good thing out of hawking young plants of the Bergamot Mint which he has gathered from the banks of streams and riverside. There is rarely any misrepresentation, for he properly, or at any rate sufficiently, describes his plants as Bergamot, and if unsuspecting suburban gardeners confuse the plant with Monarda, the fault and disappointment are theirs. Anyway, Mentha citrata is quite a showy plant, and if kept sufficiently moist will later on brighten the border. The itinerant divides the stools into little clumps of three or four shoots and usually makes the moderate charge of twopence per root, unless he is also selling the more legitimate herbaceous plants, when the price is a trifle higher.

FIRST-RATE CLIMBER FOR THE GREENHOUSE (BEAUMONTIA GRANDIFLORA).

FORTHCOMING EVENTS.

May 9.—United Horticultural Benefit and Provident Society's Meeting. Bath Gardeners' Debating Society's Meeting.

May 10.—Royal Horticultural Society's Meeting, in conjunction with which will be held the Tulip Society's Show (two days)

May 11.—East Anglian Horticultural Society's Meeting.

RHODODENDRONS IN A WIND-SWEPT GARDEN

A Notable Collection at Castle Kennedy

[Planters know that searching wind is the chief enemy of Rhododendrons. In this article Sir Herbert Maxwell shows how full advantage can be taken of shelter.—ED.]

A YELLOW-FLOWERED SPECIES FROM THE HIMALAYAS [(R. CAMPYLOCARPUM.)

THE RICH RED BUT PRECOCIOUS FLOWERING RHODODENDRON STRIGILLOSUM.

HE who allows himself to be infected with a passion for early-flowering Rhododendrons lets himself in for more anxiety and vexation than attends the cultivation of any other genus of hardy plants, except Lilies. So ran the course of my troubled thoughts when, on the morning of April 16 I looked forth at 7 a.m. (summer time, quotha!) upon a lawn as white as

"The lyart locks o' Harden's hair."

A winter of unusual mildness, followed by a weeping March, had stimulated growth and brought out such a "flourish"—to use a Scottish term for blossom—as I have never known before. The display was gorgeous on Rhododendrons arboreum, barbatum, campanulatum, neriiflorum, Thomsoni and its numerous flaming hybrids. Five degrees of frost registered on a shaded thermometer sufficed to turn this feast of colour to ashes. Not the least vexatious feature in the mischief is that it was all done in four or five hours. A friendly cloud would have warded it off and, in fact, no sooner was that mischief done, than the wind backed into the south-west bringing warmth and abundant rain.

Luckily, a few days before this devastation I visited the Earl of Stair's grounds at Castle Kennedy, and a note about the great plantation of Rhododendrons there may be of interest to some of your readers. Mr. Millais has recorded in his work on the genus how the late Sir Joseph Hooker paid a visit to the present Earl's grandfather more than seventy years ago and, being favourably impressed by the mild western climate, persuaded Lord Stair, who was then laying out a pinetum of 70 acres, to plant some species of Himalayan Rhododendrons. Sir Joseph provided him with seed, chiefly of R. arboreum and niveum. A few plants of R. campanulatum and the very scarce species Batemanni and nobile seem from their size to date from the same period. The gardener, the late Mr. Fowler, raised an immense number of plants from the seed supplied and set them out, both in groups and scattered along the broad avenues intersecting the blocks of young conifers. The chief enemy of Rhododendrons is searching wind, and the pinetum at Castle Kennedy not only is fully exposed to winds from south-west to north-west, but occupies an elevated isthmus between two large lakes, across which the gales sweep with uncontrolled fury. This notwithstanding, the Rhododendrons have taken full advantage of the shelter afforded by the Pines and Firs, and nowhere in the United Kingdom is there a collection containing such a number of R. arboreum. They stand there in hundreds, and of their dimensions I made some notes in 1916, finding them to vary in height from 18ft. to 21ft. and in girth of stem from 23ins. to 31ins. There is none of the blood red variety among these old plants, but a considerable preponderance of white-flowered plants and also very many varying from carmine through shades of rose and pink. The splendour of these trees as I saw them on April 12, loaded with blossom so that on many of them hardly any foliage was visible, was worth taking a long journey to behold.

As aforesaid, the bulk of the collection consists of R. arboreum, but there are fine specimens of a few other species. R. barbatum was 17ft. high in 1916; R. campanulatum, 20ft. 5ins., with a stem growth of 24ins.; R. nobile, 17ft. 4ins.; R. Batemanni, 17ft., with four stems, one of which measured 32ins. in girth; R. niveum, 16½ft., with a girth of 27ins. below fork at 1ft. from the ground. R. Thomsoni was 10ft. 10ins. high, a profuse flowerer, but it is not of the better type with large blooms.

At the time these Rhododendrons were planted little was known about the behaviour of the Indian species in the climate of Scotland nor of the dimensions they might attain. A few years before propagation was begun at Castle Kennedy, Dr. Campbell, the founder of Darjeeling as a sanatorium and Hooker's friend and fellow traveller in the Himalaya, had raised and planted some of them at his place Stonefield on Loch Fyne; but there was nothing to guide Mr. Fowler in the management of his plantation at Castle Kennedy. The consequence has been serious congestion in some parts of the grounds; what should have developed into splendid specimens being crowded and crushed into leggy stems with a bunch of foliage and flower far above the eye level. The present Earl, an enthusiastic lover of the genus, has many an excruciating problem to solve in deciding what must be sacrificed to restore air and light to plants that are to remain.

One regrets that a greater variety of species had not been included in the original planting. R. argenteum, Falconeri, Hodgsoni, campylocarpum, triflorum and other Indian species which have formed magnificent specimens as planted by Dr. Campbell at Stonefield, are wholly wanting from the original plantation at Castle Kennedy. That is being remedied by Lord Stair, who has a fine lot of young stuff coming on, both Indian and Chinese. All that is wanting is years to allow them to overtake the grand dimensions of the older plants.

The evil of these late spring frosts, the curse of British gardening, is not confined to the destruction of blossom. That is heart-rending enough, but at all events we have enjoyed several weeks of display (R. barbatum began to flower here on January 30, R. arboreum on February 15). The danger is that the young growth of early starting species may get nipped, and so the prospect of flower in the following season be destroyed. Fortunately, R. barbatum, Falconeri, fictolacteum, Hodgsoni and the like are late in starting into growth; whereas such things as R. argenteum, strigillosum, decorum, Aucklandi, and oreodoxa, are grievously precocious.

Owing to the firm substance and waxy texture of the blossom, cut trusses of Rhododendrons

A GOOD FORM OF THE EARLY FLOWERING RHODODENDRON OREODOXA

retain their brilliancy and freshness in water longer than most flowers. Beside me as I write on this, April 18, there stands a vase containing a truss of R. neriiflorum cut on April 9. It is still perfectly fresh and has lost none of its soft scarlet, less strident than R. barbatum, and well set off by the myrtle green leaves.

Monreith. HERBERT MAXWELL.

In Praise of a Bush Honeysuckle

(LONICERA SYRINGANTHA)

RECENTLY I was dipping through Reginald Farrer's "In a Yorkshire Garden" and came upon his tremendous praise of Lonicera syringantha. He really lets himself go to a degree unusual even for Farrer, and as I have the plant here, but had not flowered it, I was interested and wondered—as one is often compelled to wonder in reading Farrer—how many pinches or handfuls of salt would about meet the case. That is the trouble in reading Farrer. It is so impossible to gauge the facts and decide what allowances to make for his passion for picturesqueness. In his nursery catalogue it was, perhaps, easier. When he stated that Viola nummalarifolia was "beyond praise and beyond price," at least one could run one's eye along to the £ s. d. column to find that its catalogue value was only 7s. 6d. But his books are almost as difficult of accurate interpretation as the average telegram.

When he prods poor Campanula pusilla Miss Willmott with the sharpest iron and bitterest gall of his pen, what is he really getting at? With his praises one can generally agree in principle, if not entirely in degree. It is his prods which are the more difficult to gauge and account for. Well, so far as his praises of Lonicera syringantha are concerned I agree with every word he says. After reading him in the evening and being left wondering, I found my own two bushes of it in full flower the following morning, and I know now that I can take every word of Farrer's praise of it quite literally. One of my bushes is growing up the end of a half-sunk greenhouse, where I do much of my hybridising. It faces west and the sun stands on to it from the south. It is in ordinary loam, seems perfectly happy and vigorous, and is now about 4ft. high. The other is only a couple of feet high It grows at the front of an open shrub border and is forming a low spreading bush. The leaves are bluish green, neat and pointed. The flowers, which are arranged in pairs, gathered into little crowds around the bases of the twigs, are like large pink Daphne blossoms, ¼in. across, Daphne-like in their firm waxy texture, and they have a fragrance strongly reminiscent of Daphne Cneorum—also of Hyacinths—but if anything more powerful and more delicious. At the moment I like it better, much better, than any other bush Honeysuckle that I have met, though I have still to flower Lonicera thibetica, which, I am told, has larger flowers than syringantha. Farrer's praises of the plant leave nothing more to be said. All I can say is that I like L. syringantha very, very much; that you had better turn up Farrer in his Yorkshire garden, read what he says about it, and you can take it from me that all he says is quite literally true, and not a bit too much. After that you had better turn up the plant in your shrub nurseryman's catalogue and order a few bushes of it. CLARENCE ELLIOTT.

Stevenage.

An Attractive Japanese Azalea

THIS Japanese Azalea (Rhododendron dilatatum) is a very conspicuous member of the deciduous section of Rhododendrons during early April. It is an upright growing bush, eventually 5ft. or 6ft. in height, flowering freely in most seasons. The rich rosy-purple flowers average 2ins. to 2½ins. across, several plants in flower at Kew being pyramids of blossoms about 3ft. high. This species is recorded as being first introduced from Japan by Messrs. James Veitch in 1883.

Rhododendron oreotrephes

MR. GEORGE FORREST describes R. oreotrephes as an evergreen tree or large shrub, 15ft. to 25ft. in height. He first met with it in June, 1906, growing on the grassy mountain slopes of the Lichiang Range at a height of 11,000ft. to 12,000ft. Forrest's Nos. 5,873, 10,210 and 10,297 all represent R. oreotrephes, the delicate colouring of the flowers varying from a pearly grey lavender to rosy lavender. The ovate leathery leaves are 2ins. to 3ins. long and half as broad. A pale violet sheen or bloom on the stems and foliage is very conspicuous. The flowers are broadly funnel-shaped, borne in clusters of about three to five blooms.

A RHODODENDRON THAT IS DESTINED TO APPEAL TO ALL BY VIRTUE OF ITS DELICATE COLOURING. (R. OREOTREPHES.)

WHAT IS A BORDER CARNATION?

The National Carnation Society Criticised by a Modern Raiser

I GREATLY admire the spirit in the letter of "London Carnation Amateur" in your issue of April 16. The truth of his remarks cannot be ignored. The Border Carnation has become a pampered pet of refined tastes and delicate constitution, instead of being developed for robustness and hardiness.

Mr. J. L. Gibson's reply was splendid; no one can deny the accuracy of his statements; but the fact remains that the Border Carnation is developed as an exhibition flower and not as a hardy garden plant.

For years our firm has been engaged upon developing a new race of really hardy Border Carnations from certain hardy seedlings of Perpetual-flowering Carnations which we have been crossing with the hardiest varieties of old Border kinds; the new race of Perpetual Border Carnations are the result. These have the true Border form, continuous flowering from June to November in the open, and withal have an exceedingly hardy robust constitution, as is so often the case with a mongrel race. These winter outdoors splendidly in the wet, heavy clay of our Wivelsfield Nurseries; they are readily propagated by cuttings or layers during the summer, and flower within nine months from seed, producing quite 90 per cent. double flowers.

But here is a spectacle. The very society which exists to further the interests of Border Carnations, viz., the conservative National Carnation Society, refused our offer of special prizes to encourage the cultivation of this new race of hardy Perpetual Border Carnations, at their London show on July 26, forsooth. I imagine because they are new. They apparently must retain the old-fashioned rules and regulations as to form and petalage laid down many years ago by a few men in a back room at Cambridge. The man in the street, the teeming multitudes of to-day, who have a back garden or an allotment, but no frame or greenhouse, want to grow and show hardy Carnations; the new Perpetual Border race has been developed for the millions who are enthusiastic if not expert growers of Carnations. Exactly the same encouragement was met by our new race of hardy plants, Dianthus Allwoodii, when special prizes were offered. This was met by a direct refusal from the National Carnation Society, although some members of the Committee admitted their beauty and adaptability for show purposes and wished to include them in their shows.

All committees of horticultural societies must remember that it is the public who are the real judges and the only people who really matter. The fact that the demand for our Perpetual Border Carnations and Dianthus Allwoodii each season since their introduction has always exceeded the supply is proof positive that the general public want really hardy perpetual-flowering races of Carnations, and these we are now producing in endless thousands. In the meantime why not approach the Royal Horticultural Society to hold a trial at Wisley of all Border Carnations, Pinks, Allwoodii and hardy Carnation hybrids from autumn-planted stock, so that their hardiness and value as garden decorative plants can be thoroughly tested; but these should be judged by men with modern minds, and not the idealists of the past.

Hayward's Heath. MONTAGU C. ALLWOOD.

BETTER MANAGEMENT OF CONSERVATORY FLOWERS

The Main Causes of Failure with Greenhouse Primulas

THE Primrose family now comprises plants of a wonderful range of colour and habit of growth, many of the rarer sorts being very beautiful when grown in pots, but the difficulties attending the cultivation of many of them and their comparative insignificance, unless in very large masses, precludes their being widely grown for conservatory decoration. Indeed, for all practical purposes only some four or five kinds are in popular favour for this purpose, and it is of these I now treat, as, unfortunately, their simple wants do not seem to be universally known, judging from the poor specimens often met with. In many cases too late sowing is one of the main causes of failure, while the employment of too much artificial heat is also detrimental to the well being of the plants. The three distinct kinds, P. sinensis, P. kewensis and P. obconica, should, if really handsome plants are desired, be sown early; the earlier the better, though good results may be obtained by sowing this month.

A DAINTY TABLE PLANT, PRIMULA MALACOIDES ROSE QUEEN.

While the seeds can be germinated in a temperature of 70° to 75°, it will be found that much better results are had with a steady moist warmth of 55° to 60°. Nothing elaborate in the way of soil is necessary when sowing the seeds, a mixture of fresh loam, sweet leaf-mould and sharp sand in about equal proportions being excellent. I note that one of the most famous growers of P. obconica advises that no leaf-mould be used, but on testing this I could find no difference in plants raised with the above mixture and others sown in loam and sand only. Sow very thinly and cover carefully but lightly with finely sifted soil. Give a gentle watering and cover the pans with a sheet of glass and a piece of paper. Primulas germinate very unevenly, but good seed will begin to show signs of life in ten to fifteen days. As growth appears remove the paper, but always shade from all sunshine. Never allow the soil to get dry, but at the same time guard against saturation. The glass should be tilted a little as soon as a fair number of seedlings appear through the soil, and a few days later it may be removed altogether. When the little plants show the first true leaf prick off carefully into ordinary cutting boxes of somewhat similar soil to that in which the seed was sown. This is better than transferring to thumb pots, as the soil in the box can be kept moister and cooler than is possible when pots are used.

In due course the plants will be strong enough to be transferred to 3-inch pots. The soil should now consist of three parts best fibrous loam, two parts sweet flakey leaf-mould and one part sharp clean sand. If available, a half part of very rotten old manure may be added, or else a 4-inch potful of Ichthemic guano to a barrow-load of soil. Mix thoroughly and use rather dry than wet. The pots must be quite clean and dry, and one piece of crock in the bottom will suffice.

The soil must be made only moderately firm. Water well after potting and return to a house with a temperature of about 55°. Shade from all sunshine and give water with great caution.

On bright warm days a gentle sprinkle overhead in the evening is beneficial. As soon as the little pots are fairly filled with roots remove to a cold frame having a northern aspect. Keep rather close for a day or two, afterwards gradually admitting plenty of air by tilting the sashes at the back.

PRIMULA OBCONICA CHENIES STRAIN.

Ten days after removal to the frame the final shift can be given. Use similar soil but in a rougher state, and add a 5½-inch potful of Thomson's Plant Manure and a 6-inch potful of bone-meal to each barrowload of soil, omitting the Ichthemic guano. Make the soil evenly firm, but not hard, and water with judgment, as too much or too little are equally disastrous. Always shade from bright sunshine and nip out all flower-stems as they appear up till November, when they may be left to develop. By the middle of September remove to a heated structure, keeping near the glass. It is not frost so much as damp that is to be dreaded, so housing the plants is a necessity. Air well but judiciously, and feed regularly with weak liquid manure. Clear soot-water is also excellent for these Primulas, as is a heaped tablespoonful of Ichthemic guano stirred into a gallon of clean water. Use about twice a week.

It is always advisable to secure a good strain to seed, as these are just as easily grown as poor weedy kinds, and the results are so much more pleasing. P. malacoides is another gem when well grown. Seed of this should also be sown in May, after-treatment being much the same as detailed above for other Primulas. The worst enemy of this pretty little plant is damp. Watering must be very carefully attended to, especially in late autumn and winter, while overpotting must also be guarded against. Five-inch pots, as a rule, are large enough for P. malacoides, very good specimens being often seen in the 4-inch size. The other Primulas named above do best when confined to comparatively small pots. The very strongest plants may have the 6-inch size, the others being accommodated in 5-inch pots.

C. BLAIR.

Preston House Gardens, Linlithgow.

Flowers of Bygone Days

Can They be Revived?

BY W. CUTHBERTSON, J.P., V.M.H.

AT a recent meeting of the Royal Horticultural Society I had in my buttonhole a very good gold-laced Polyanthus. I was surprised that so many people commented on it. The versatile "J. J." (Rev. Joseph Jacob) commenced to talk about the old named sorts Cheshire Favourite, Lancer, William IV, and others which I have known a little about thirty or forty years ago. Then my simple little flower formed a text for my most up-to-date friend, Mr. Montagu Allwood. He told me he was interested in the old florists' Carnations of sixty years ago, and was trying to lay his hands on them, varieties like Admiral Curzon, Justice Shallow, Rifleman Dan Godfrey, Mayor of Nottingham, Squire Meynell and Jenny Lind. That made me think of a week-end I once spent at Oxford with Mr. E. S. Dodwell and saw most of these growing.

We all value rare old china, old furniture and old pictures, but old flowers are in quite a different category. Flowers are living things and have constitutions!

There has been some correspondence recently about the older varieties of Sweet Peas and the question of perfume. I hold, but I know that my opinion is questioned, that we have in the large modern waved Sweet Pea lost perfume as compared with a number of the old-fashioned forms like Lady Grisel Hamilton and Princess Beatrice.

The Royal Horticultural Society is this year carrying out at Wisley a trial of Sweet Peas representing the lavender, blue and purple shades, and in the trial are included all the old-fashioned varieties of these colours that could be obtained. This is being done by desire of several members of the Council. While speaking of trials at Wisley, may I call attention to the interesting and valuable trial of Dahlias which is taking place this summer. The Dahlia has been far too long solely judged on the exhibition table, and too often, alas! from wired specimen flowers which can give no idea of the behaviour of the plant in the garden. The trial at Wisley, which will embrace the best varieties, as we know them, in all sections, will be conducted on natural lines—no thinning and no disbudding being allowed—the object aimed at being to arrive at the varieties which give the best results from a decorative point of view under good ordinary garden culture.

Why Not Grow Scented Geraniums?

A Selection of the Best Varieties

WHY are these plants, that were at one time so popular, seldom seen in the garden and greenhouse to-day? Not because they lack attraction or are difficult to grow, for few plants give a greater return for the trouble expended on them, while the boughs of fragrant foliage, that can be freely cut, are always a welcome addition to flowers. The old Oak Leaf is one of the best of all and rapidly makes truly gigantic specimens, a cutting—rooted in autumn and planted out in a sunny place in the garden in early summer—attaining the dimensions of a small currant bush by the autumn.

These old plants, if space permits and they can be housed, can be grown on a second year and then become simply immense, providing huge quantities of the elegantly cut foliage. Capitatum is strongly rose scented, with purple flowers. Citriodorum is rather a difficult little variety to procure, but the fragrance is lovely; the plant, if frequently stopped, forming close compact little bushes. This is the variety that is largely used for scenting hair washes. Clorinda is a hybrid, a cross between the Oak Leaf and one of the Cape varieties, notable for its lovely flowers, as well as the fragrant leaves. These flowers are of good size and bright rose cerise in colour. Another desirable form is fragrans, very pretty [illegible] with small deep green leaves. [illegible]

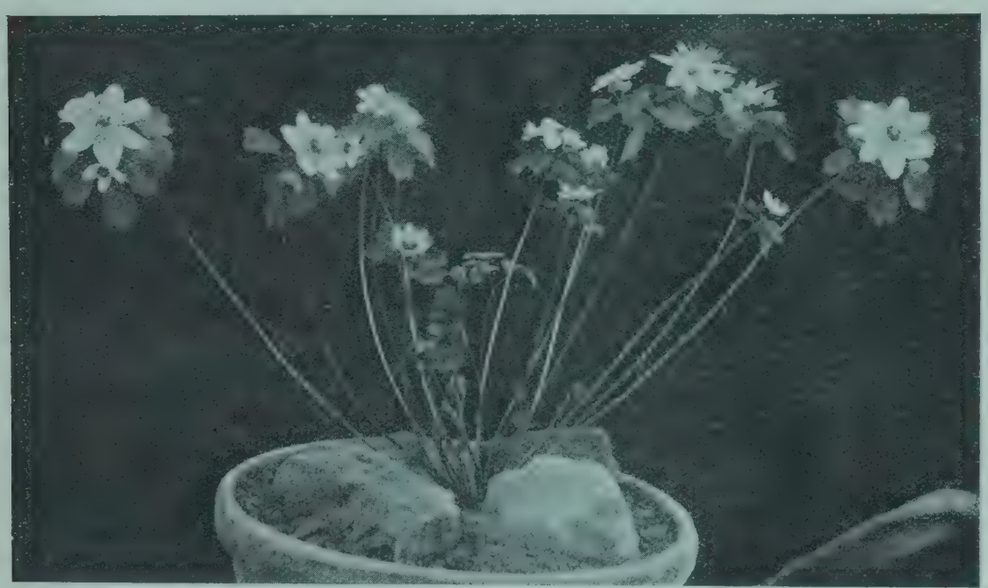
most—has undivided leaves, these being of the typical Geranium shape and thickly covered with down, while—when pressed—they emit a strong perfume of Peppermint. Lady Plymouth is the duplicate of the Oak Leaf variety, save that the leaves—instead of being green—are heavily variegated with white. Another Peppermint-scented form is Odoratissimum lobatum, while Pretty Polly is very compact and bushy, smelling strongly of Almond. Radula is a small type, with tiny, much cut leaves, perfumed like Balsam. Shotterham Pet, to conclude an already lengthy list, has rosy purple flowers, and leaves reminiscent of the Filbert.

All of these respond to similar treatment to the bedding Geraniums, cuttings rooting freely in the open ground in August, from whence they can be potted up and housed for the winter, potting on into larger sizes as needed. Do not spare the picking, every time a piece is cut they will branch from the lower joints and become bushier and thus the more you cut, the more you have to cut. H. W. CANNING WRIGHT.

A Graceful Addition to the Alpine House

(THALICTRUM ANEMONOIDES)

WITH the return of spring members of the Anemone family are again coming into evidence, and of these none perhaps forms a daintier or more graceful subject for the alpine house than the Rue Anemone (Thalictrum anemonoides). The slender reddish stems suggest the sensitiveness of an Oxalis. The flowers, which have none of the ragged appearance



THE RUE ANEMONE (THALICTRUM ANEMONOIDES) WHITE FLOWERS TINGED WITH PINK

which characterises some other members of the family, are white with the faintest possible tinge of pink, and are most effectively set off by the rosette of leaves just below each.

The Rue Anemone is an excellent subject for the rock garden. It should be planted in moist soil and given partial shade. This Thalictrum thrives well when naturalised and may be propagated from seed or by division in early spring.

The double varieties are generally preferred to the type and there is an elegant form which has pale rosy-coloured sepals.

Belonging to the natural order Ranunculaceæ, these perennial herbs come from the north temperate and frigid regions.

Ripley. A. E. SIMS.

A Mild Winter and its Effect on Alpines

The Varied Experiences of a Lancashire Reader

I HAVE been greatly puzzled during this springtide to account for the quantity of rock plants that have been wiped out. Not only plants that one looks upon as true alpines, but the ordinary hardy subjects that generally prosper under all conditions, such as Heucheras, Saponarias, Thymus, Saxifraga Hostii, Dianthus, Geum montanum and Corydalis. Cuttings of Dianthus Allwoodii taken in July last have come through without a check, while the older plants have all perished, with the exception of the variety Mary. These plants were well established and bloomed freely last year, and have done so for the last few years. They were growing upon a raised border facing S.S.E.

Being interested in the habits of the birds of my district, upon one portion of this border I have placed feeding tables, with the result that many beautiful species pay a visit here. Now, I have been wondering if this is wise, for we have the visits of the neighbours' cats, not only lying in ambush among the plants, but I find the soft bed of Saxifraga trifurcata especially to the liking of puss.

Recently I noticed half a dozen sparrows working very industriously among a clump of Viola cornuta purpurea. On examination I found they had nipped large quantities of the shoots, principally the extreme tips. Why they should select this beautiful species in preference to all others I cannot imagine. The tits are also here in numbers They are always busy, and from observations I do not think they do any great harm, and certainly much good.

In this border I am somewhat troubled with wireworms and a small centipede, besides other pests, which are kept down by lime and other methods. But at one end of the border there is a fine group of Campanula muralis bavarica in proximity to that charming plant Corydalis lutea. The former has been the brightest and most cheerful plant in the garden during the winter. The Wall Fumitory has worked its way among the Campanula to its detriment. Therefore this part of the rock wall I intended taking down to get rid of the encroaching plant.

I am not a winter gardener. In consequence, I had not noticed that the Corydalis had quite disappeared while the Campanula was a pleasure to look upon. I have never known this species to behave with me in this manner before. Generally it seeds and appears in different parts of the bed. I put the loss of my plants to the wireworms and centipedes, and felt sure the soft fleshy roots of the plant would be alive with these pests, but on taking up several roots not a single insect was among them. Therefore I was greatly at a loss to account for the disappearance of so many of my rock plants.

By the noon mail (April 9) I received a copy of the *English Herald Abroad* (a paper printed in Montreaux), and here I think my difficulty is solved. The name of Mr. Henri Correvon of Geneva will be known to readers of THE GARDEN as one of the greatest living authorities on alpine plants and gardening, and in an article in this paper, "The Plants of the Alps in Our Gardens," Mr. Correvon says, and to me it came somewhat as a surprise: "And yet, notwithstanding, the surprising nature of the affirmation, it is certain that the moist and maritime climate of England offers advantages over our own lowland climate" (*i.e.*, Geneva) "which is drier and too Continental." The article, the second of this series, is full of valuable information. But is not this the cause of all my present trouble. During the spring and early winter we have had very little rain, and strong drying winds, and I feel convinced that this unusual loss of hardy plants has been caused by the extremely mild winter, aided by "drying, withering atmosphere of the plains."

Further, turning up an old book of notes upon the alpine flora of the Himalayan district, I find this extract from Hooker's Himalayan journals: "On the boundary of Sikkim and Tibet 15,745ft. above sea-level. Here the slopes exposed to the south winds are bare. While the north, the yellow Cowslip, P. sikkmensis gilded the marshes. Caltha scaposa is very abundant. C. palustris is not found in Sikkim. Anemones, Potentilla, Draba, Saxifraga, Arenaria and other alpine plants are abundant." Truly, it is another case of "killed by kindness," for are not all my losses caused by the south wind and the long continued drought?

A few years since, when we had frost for a considerable duration, registering 22°, and snow, I lost comparatively few rock plants.

Warrington. JAMES PARKINSON.

Marsh Marigolds.—Although it is not quite a stranger in Covent Garden Market, we were agreeably surprised to see a huge bunch there a few days ago, when its gorgeous golden colour shed a glow all round. In the ordinary way this plant would scarcely pay for cultivation, though it sells readily enough; but there must be a number of marshy spots, to say nothing of the banks of streams, where it could be easily established and in a few years would yield large quantities of cut bloom. While it is naturally a water-loving plant, Caltha palustris is, like many of its congeners, of an amphibious nature and thrives well in the hardy flower border. For the garden the double flowered variety is to be recommended, as also are the enormous-leaved Caltha polypetala and C. leptosepala which bears white flowers.

New and Rare Plants

IT sometimes happens that a new plant is passed over without award when shown before the Royal Horticultural Society. This does not necessarily mean that the Society is not fully aware of its good points. There may be sourd reasons why it goes unrewarded; on the other hand it is well known that plants, after gaining the highest awards, have proved disappointing when grown in the open. In addition, it is obvious that there may be differences of opinion as to the merits of the plants shown. It is our intention in future to include what are to us the most noteworthy and attractive of the new and rare plants, irrespective of awards. We intend doing this, not with any thought of reflection on the committee which makes the awards, but solely from the standpoint of general interest. New and rare plants are exhibited from time to time about which the ordinary garden-lover, as distinct from the specialist, will be glad to hear. The latter knows full well that newly introduced plants which he may at one time have thought possessed little merit, have become far more popular than those on which he placed highest value. It is at least possible that occasionally we may discover a gem which others with greater knowledge may overlook!

A number of new Rhododendrons shown by various exhibitors formed one of the chief attractions at the last meeting of the Royal Horticultural Society. A very beautiful set of seedlings from Mr. T. H. Lowinsky were, in our opinion, worthy of better awards than they received, and had the exhibitor complied with the rules of the Society and shown these new plants in the committee room instead of in the main hall, we feel sure—and the opinion is shared by others—that more awards would have been granted.

Rhododendron Britannia.—This is a very showy hybrid stated to be between Queen Wilhelmina and an unknown arboreum variety, but it is not the ideal type of hardy Rhododendron, the truss is too loosely made so that when all the flowers are fully open there is no centre to the truss. Shown by Messrs. C. B. Van Nes and Sons.

Rhododendron Bernard Crisp.—At a little distance this glorious variety suggests the popular Pink Pearl, but this is dissipated on closer inspection. The truss is large and perfectly formed and the colour is a bright glistening pink. Shown by Messrs. Waterer, Sons and Crisp.

Rhododendron Dona Tizia.—This is one of the type that is associated with the Cornish Riviera and is a cross between Doncaster and Aucklandii rosea superba. This being so, it is naturally a somewhat loose truss but the individual flowers are very large and of delightful palest blush colour. Raised and shown by Mr. J. H. Lowinsky.

Rhododendron viscosum glaucum.—The differences between this variety and the ordinary Swamp Honeysuckle, which is generally known in gardens as Azalea viscosa, are that it is a little later in flowering, the leaves are bluish-white instead of pale green and the flowers are a trifle whiter. Shown by Mr. F. J. Strover.

Camellia Fred Sander.—An uncommon but not new variety. The semi-double flowers have a charming old rose colour and a neat cluster of golden stamens. It differs from the usual semi-double Camellias in having delicately fimbriated edges to the petals. Shown by Messrs. Sander and Sons.

Rose Lady Verey.—A quaintly beautiful cluster Rose about 3ins. across. The double flowers are curiously flattened and the edges of the petals are recurved. The colour is rather more than paper white, prettily tinted with lemon colour in the centre. Shown by Mr. E. J. Hicks.

Cerasus Hizakura.—One of the beautiful Japanese Cherries, similar in general appearance to the well known variety J. H. Veitch, which continues to be one of the very best. These Cherries are varieties of Prunus serrulata. C. Hizakura bears almost double flowers, fully 2ins. across, and already beautifies many gardens. Shown by Mr. R. C. Notcutt.

Primula chionantha. — The semi-pendulous flowers are carried high in a dense head; they are smallish, starlike in form, almost pure white in the petals and have long lemon coloured tubes. Shown by Mr. Clarence Elliott.

Aubrietia Attraction.—This is a welcome addition to the many varieties of Aubrietia. The flowers are large for the genus, very freely produced and of delicate pale mauve colour. Shown by Mr. M. Prichard.

RAISING AUBRIETIAS FROM SEED

No Rock or Wall Garden Should be Without these Beautiful Plants

TO my mind there is no prettier plant in the rock garden than Aubrietia græca. It commences to flower in March and blooms through practically the whole season, being at its zenith in April and May. Once planted into position it requires practically no attention beyond cutting back if it encroaches too far. On a dry wall or in the crevices of a flagged path, down stone steps, or on a dry border it will form dense cushions of bloom which will delight the eye of the beholder.

A DRY WALL BEAUTIFULLY CLOTHED WITH SEEDLING AUBRIETIAS.

Unfortunately, Aubrietias are rather costly to purchase in plant form; but as numerous plants may easily be raised from seed, the difficulty of stocking a large dry wall or rock garden is easily and cheaply overcome by producing plants by this means. Those who have this Aubrietia growing in their gardens will know how readily it forms seeds, and how easily these germinate by simply falling out of the seed-pods on to the surrounding soil. The seeds are very minute and dust-like, and may be sown in the open ground during May or June. The seeds need not be covered, as they will readily germinate if kept moist for a week or so. When I wish to raise plants from seed I usually rake down a piece of ground, distribute the seeds upon it, give a watering with a fine-rosed can, and then forget all about them. In due course the seeds germinate, and when about as wide across as a penny, the seedlings are pricked off into another piece of ground, where they remain until the autumn. By this time the seedlings have developed into nice strong plants, which can with safety be planted in the crevices of the dry wall or flagged paths, or wherever they are intended to remain permanently.

Aubrietia græca is invaluable for the rock garden, and will grow in almost any kind of soil. When once established it increases rapidly, and looks very pretty when tumbling down the side of a wall. From a small packet of seed a number of plants will be obtained of a deep purple colour. Here and there some of the plants may throw lighter colours of purple or in cases almost blue both light and dark. Aubrietia Leichtlinii is another variety which can easily be raised from seed. The blooms are rosy red, and make an effective contrast to the blues and purples of græca if grown on the same wall.

During the first year Aubrietias do not make very big plants from seed This is fortunate in a way, in that it is easy to plant a seedling in quite a small aperture. From the second year onwards it will increase in size in a truly marvellous manner and should more plants be desired, cuttings can be rooted in a frame.

CLARENCE PONTING.

Tomato Cultivation in Cold Frames

The Best Results are Obtained by Planting in May

IT may not be generally known among amateurs that one of the most profitable uses that may be made of a cold frame during the summer months is for the cultivation of Tomatoes. This fruit, or vegetable, whichever one may term it, cannot always be relied upon as a success outdoors, but with the protection of glass, either in the form of a frame or any unheated structure, excellent crops may be obtained with reasonable care and attention to their cultural requirements. With cold frame treatment the method of growing that I am going to describe ensures each truss of fruit receiving the maximum amount of light and air, as the lowest or first formed truss is as close to the glass as the one at the top of the plant. Needless to say, for such a sun-loving plant the frame should be placed in the best position available where it will catch the sun's rays.

Having decided on the position of the frame, the next consideration will be the preparation of the same as regards the soil for the crop. Although Tomatoes will grow in practically any good garden soil with feeding, undoubtedly the best is a compost consisting principally of good fibrous loam, with the addition of lime rubble or slaked lime; while another good and cheap ingredient is basic slag, using a 5in. or 6in. potful to the barrowload of soil. It is a good plan to get the soil in readiness before actual planting, as this permits of a thorough incorporation of the ingredients and mellowing of the soil. Fine bone meal or flour is also a valuable addition and will form a reliable standby for the plants when fruiting heavily; but any other quick-acting manures I would prefer to leave till a later date and use as top-dressings or as liquid manure.

There are primarily two ways of making the soil up. One, to place it at an even depth all over the frame; the other, to make a bed at the lower end. If the first named method is adopted the plants may be allowed to lie on the bed as growth proceeds, similarly to a Vegetable Marrow, and the trusses of fruit must be protected from the soil by placing pieces of slate, tile or something similar underneath. Though I prefer the second mode of treatment, excellent results may be obtained by the means I have just described. The second way is to make the bed at the bottom end of the frame, which will raise the plants above the normal level, and then to train the growths along wires, stakes or strings fixed to the back and front and which will depend entirely on the depth and proportion of the frame, but will allow the fruit to hang clear of the soil and so get the benefit of a free current of air.

Watering and feeding, in any case, will only be done at the bottom end of the frame; not wetting the foliage more than can possibly be helped, excepting a slight syringe or a damp over with a fine rose until the plants get established in their permanent quarters after planting, when a slight shade from the sun's rays, will also be beneficial, gradually exposing the plants to full sunlight. If planting from pots give the balls a thorough soaking of water and allow the plants to drain. Should the plants be leggy in appearance the bottom part of the stem may be buried in planting by laying the plants on the slope; the upper part of the plant will afterwards assume an upright position. I have frequently seen the top of plant No. 2 laying on top of the roots of No. 1, and so on. After planting give a thorough watering with clear soft water, and then afterwards water carefully and ventilate according to the weather to induce a strong, sturdy growth. Give abundance of air on warm, soft days, and when the weather is not so genial ventilate on the leeward side.

MAKING GOOD USE OF A COLD FRAME. TOMATOES GROWING WITH YOUNG LETTUCE UNDERNEATH.

Take the greatest care of the leading growth, and for a time after planting do not remove any side-growths, in order to encourage root formation; but when established and forming roots, as they should be after a fortnight or three weeks, remove the growths from the axils of the leaves when quite small, and give as much attention as possible in the way of airing to promote short-jointed growths, which will also mean more trusses of fruit. After the first truss is set and swelling away, feeding may be started, and increased as the second swells, and so forth. Sprinklings of finely sifted soil containing equal quantity of some good chemical fertiliser or fruit manure over the rooting surface will attract fibrous roots to the surface, which in turn may be fed again. When cropping heavily do not allow the plants to suffer too long for want of water, and thoroughly soak. Towards the end of May, according to locality, will be a good time to plant. Plants that have been well grown and are showing first truss of flowers possess a great advantage over smaller ones.

E. B. FOTA.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Nymphæas are the choicest of all water plants, and where there is a piece of water a clump or two should be found room for, if possible. May is the best month for planting, also for the division of strong clumps, if this is necessary. The work of planting, dividing and cleaning can be more quickly accomplished if the water can be, at least partially, run off. A satisfactory way of dealing with new plants is to put them in round, shallow baskets, which have been well packed with good fibrous loam, and then sink them in the position where required. Should planting be contemplated in some piece of water where none or very little after attention is intended, simply clear the surface of rubbish and attach a Lily crown to a broken flower-pot or piece of drain-pipe and throw it into position. In making a new pond or suitable place for growing Nymphæas, the depth of water allowed must, to some extent, be determined by selection of varieties. A general purpose depth may be from 2ft. to 4ft.

Perennials, such as Delphiniums, Geums and Gaillardias, may be sown now in beds of fine soil in nursery quarters or kitchen garden, afterwards pricking out in rows about a foot apart and growing on ready for future use. Aubrietias, too, may be raised from seed sown now, where large supplies are required and sufficient stock cannot be worked up from cuttings or division of old roots.

The Kitchen Garden.

Planting of early raised Cabbages, Cauliflowers and Brussels Sprouts must be carried out as opportunity offers and climatic conditions are favourable. Give Brussels Sprouts plenty of room, especially the more robust varieties, 3ft. between the rows and at least 2ft. 6ins. from plant to plant.

Onions raised in heat and pricked out in boxes must be got out, if not already done, as soon as possible. Where large bulbs are required the plants should be placed a foot apart and the rows 15ins. to 18ins., but for a general purpose crop several inches less each way will be sufficient.

Cardoon.—The culture of this lesser known vegetable is somewhat similar to that for Celery. Seeds may be sown now on a warm border, and plants afterwards placed in a trench; or seeds may be sown direct in the trench in holes made 2ft. apart, afterwards thinning out to one plant to each hole.

Sweet Corn, sometimes termed Sugar Corn, is more popular in Canada than in this country. It makes a good dish when the cobs are cooked whole, being sweet and nourishing. Sow in frames, and afterwards plant in rows 2ft. 6ins. apart, allowing 15ins. between the plants.

Early Potatoes.—To assist in warding off frost these should have some soil drawn up to them as soon as through the ground. Some light covering, such as broken straw or hay, should always be kept in readiness and lightly strewn over the rows when severely cold nights threaten.

The Hardy Fruit Garden.

Vines growing on walls should receive periodical attention for the suppression of lateral growths and the proper regulating of the wood required for fruiting the following season. Unless it is desirable to leave a bunch on wood required for extension, the laterals carrying fruit should be stopped at a few leaves beyond the bunch.

Raspberries.—Remove surplus and weedy growths, and thus concentrate the whole of the plant's energy into this season's fruits and the development of the canes for another year.

Trees newly grafted should be examined frequently to see that binding and material are as they should be and have not been interfered with by weather or other agencies.

Plants Under Glass.

Cinerarias are one of the indispensables for conservatory decoration, useful alike to the one-house amateur and to the large establishment. Of the varieties to grow, personal taste must decide. One of the main points to bear in mind, to be successful in their cultivation, is that the treatment must be cool. Seeds may be sown any time after the end of April in light, open soil in pots or pans placed in a cold frame. Shading must be given at all times from bright sunshine, and if possible a cool ash bottom arranged during the various stages of growth.

Forced Plants, having completed their growth, must be removed to cold quarters previous to placing them outdoors. Where there is ground available for planting them out, much labour is saved watering; but where this cannot be done arrange the several varieties of plants in double or treble rows and pack between and over the pots with strawy litter and leaves, and this will greatly assist in keeping the plants moist.

Fruit Under Glass.

Pot Fruit Trees must be kept well supplied with water as the season advances, and, where heavy crops are carried, liquid manure should be added. It should be the constant aim to keep the trees clean by syringing when possible, and if caterpillars appear hand-picking should be practised at once. As the earliest Peaches and Cherries approach the ripening stage see that plenty of warm air circulates freely through the plants to aid colour development and especially to improve the flavour. The syringing of the trees must be gradually withheld as this stage is reached. H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Broad Beans.—Make a good sowing suitable for late supplies, for if the summer should prove hot and dry, early lots go off quickly and lose their freshness. Similar varieties as for early sowings may be used.

Parsley.—Plants raised in boxes for transplanting may now be transferred to the open border. Plant in rows about 1ft. apart and 9ins. between the plants in the rows. Anyone growing for exhibition purposes must plant much wider, so that the plants have room to more fully develop.

Vegetable Marrows should be sown for planting on ridges in the open, as they will be ready in nice time. The plants should be kept growing freely and should be sheltered for a period after planting out, as they are most susceptible to the least touch of frost. Do not put out plants that are stunted and potbound, as these only cause disappointment.

Kohl Rabi.—Where the ground is hot and dry or where it is troublesome to grow nice Turnips, the bulbous roots of the Kohl Rabi in a young state are found to be a valuable substitute. Sow now and transplant early in July. They must be planted shallow, so that the roots may be encouraged to swell above ground.

Swedes.—Swedes for winter use may now be sown, and we find it best to choose a good field variety, as the so-called garden Swede seems to produce nothing but "neck." At any rate with the writer it has always proved disappointing. When sowing allow about 20ins. between the drills.

Lettuce.—A quantity of these which were raised in boxes will be run out in rows in the open, and will make a good succession to those which have been cut from frames. Sutton's Favourite and Webb's Wonderful stand transplanting well, and are most useful sorts, while for a Cos variety we favour Samson's Giant.

Plants Under Glass.

Bush Chrysanthemums.—These will be growing freely now, and will stand pinching so that good bushy specimens may be obtained. Spray occasionally with Abol Insecticide so that the leaf-mining maggot may be kept in check.

Shading of Plant Houses.—It is necessary now to attend to the shading of plant houses. More especially should Palm houses be densely shaded and so help to retain the fresh green so attractive in this class of plant. Where sun blinds are not in use it will be an advantage to procure one of the useful preparations supplied by seedsmen.

Aralia Sieboldii.—New seed of this useful and easily raised evergreen will now be to hand and should be sown in heat, using shallow boxes for the purpose. Place a piece of dull glass over the box, as this helps to retain the moisture.

Annuals Suitable for the Greenhouse.—To have a good variety of plants for conservatory or greenhouse work during late summer and autumn it is advisable to sow certain annuals for pot culture at this time. For instance, Nicotiana Sanderæ may be grown in 7in. pots, and is exceedingly graceful, being used to break the flat appearance of other groups. Browallias, Celsias, Balsams and Celosias will all be found useful subjects; while Statice Suworowi should not be forgotten. Other attractive and easily grown annuals well known to readers may be grown in the way mentioned, and they will give much pleasure in the latter part of the season.

The Pleasure Grounds.

Bamboos.—Should planting of these be thought of now is quite a good time to have the work carried through. One of the essentials in planting Bamboos is to choose a sheltered site. When they are exposed to cutting winds the results are disappointing. They are most happy in a sheltered nook in the woodland, more especially where they may be shaded from strong sunshine until the frost lifts from their foliage. Should the natural soil be heavy, a good mixture of leaf-mould, lime rubble and sifted cinders is a suitable addition, and results have proved that this is an agreeable compost. Varieties which thrive well here are palmata, Metake and Arundinaria anceps. The latter is a most vigorous grower, and throws up magnificent spikes each year. Among the finer sorts B. nitida is always a favourite, while for groundwork pygmea and pumila are best. Should very dry weather intervene, copious waterings should be given, also a mulching of well rotted manure. JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CORRESPONDENCE

AURICULA G. F. WILSON.

THIS delightful little Auricula makes a very neat, compact plant, never growing much more than 3ins. high. The plant, which is the subject of our illustration, is in a 3½-in. pot and

A HARDY AURICULA SUITABLE FOR POT CULTURE (A. G. F. WILSON).

stands 6½ins. high, making a very effective pot plant and perfectly hardy.—J. ANDERSON, *Clacton-on-Sea.*

HELXINE AS A CARPETER.

I SHOULD like to say a word of warning to those who may meditate using this as a carpeter. When I first saw it, I thought it so lovely (bright green, with red stems when young), that I planted it on two retaining walls, where it swarms over everything, and only by constant and long finnicky work can it be kept down, and, much as I like its look, I regret the day I planted it, for it cannot be eradicated; every tiny scrap rooting and spreading over one's choicest plants. It is too close even for a bulb carpeter; they do not like it.—WESTERN WIGHT.

PLANTING HERBACEOUS BORDERS.

MAY I offer a brief criticism of a suggestion made by "Formakin" on page 162, in dealing with this subject? I venture to question the practicableness of expecting five different bulbous subjects to successfully follow each other when planted under a carpet of Saxifrage, at least for more than one season. The spread of the Saxifrage would have to be very considerable to allow of the five bulbous plants mentioned being planted in clumps as "Formakin" rightly advises, or else the planting of these bulbs would have to be a sort of Piccalilli mix-up. Moreover, unless the soil is decidedly on the light side, English Iris would be the better for exposure of their position to sun for ripening rather than always being covered with Saxifrage. In fact, the late Dr. Wallace of Colchester wrote that to get the best result from English Iris they should be replanted every two or three years—not an easy matter if buried under mossy plants. Spanish Iris, too, are the better for not having too much moisture overhanging them when dormant. But the plant most resentful of being so covered, in my experience, is Iris reticulata. To plant this bulb on any but the lightest of soils under a covering of Saxifrage would be courting failure after the first year, even if there were no misses the first season. If "Formakin" wants a carpeter for Iris reticulata I would suggest Veronica repens—a plant not one quarter so dense as Saxifrage; but such covering is not good for any bulbous plant requiring a fair ripening before it can flower the next season. Dry winter conditions are what these choicer Iris demand—a requirement that being planted upon is not conducive to.—C. TURNER, *Ampthill Park Gardens.*

A SIMPLE TRAP FOR SLUGS.

IT may be of some interest to know of a simple slug trap which I find most effective, consisting of a little bran scattered on the surface of the soil and covered by a large stone (with some concavities underneath, if possible), or by an inverted earthenware pot-saucer. The chief advantage is that the hard black "underground" slugs seem especially attracted, which do so much harm to roots and bulbs. I find also many of the harmful black millipedes (that often cause the disappearance of choice bulbs) peacefully feeding, also woodlice; and I find the traps well frequented on my rock garden. The larger earthworms I consider the great enemy of rare alpine plants; as one cannot use worm-killer effectively in the rock garden, I often go round at night with an electric lamp, when one may see this arch-enemy lolling out full length from the centre of some pet tuft, and tugging at small plants, such as Saxifrages and Drabas. On special parts of the rock garden I catch the enemy, as near the tail as possible, with an old discarded pair of blunt tongue forceps and pull him out—not so easy a matter as one would imagine, requiring little tugs at different angles, and making one admire the dexterity of the thrush! I simply throw the rather astonished worm some little distance away, and find that his burrow is not frequented again as a rule for some months. They take so long to die in solutions of salt, worm-killer, etc., that I dislike attempting to kill them.—KENNETH ROGERS (M.D.), *Bromley, Kent.*

WHAT IS THE OBJECT OF THE DAFFODIL SHOW?

A Plea for Decorative Classes.

ON page 200 Mr. Jacob writes: "This list of flowers is . . . written about from a 'Show' point of view . . . a very high official of the Royal Horticultural Society told me that he considered all the flowers ought to be judged from a garden point of view." If the majority favoured the latter point of view where would the £50 bulb come in? In walking round the Show I overheard a member, who certainly looked overflowing with this world's goods, remark to a salesman: "No, no, I cannot afford bulbs at that price. You do not know the size of my garden; I should want a fortune to plant it with bulbs at that price." This did not happen at the exhibit where the £50 bulbs were sold, so I cannot say what "that price" meant; but this incident leads me to think that there may be something in the contention of "a very high official." It certainly raises the question: What is the object of the London Daffodil Show? I take it the primary object is to increase the popularity of the flower. If this is so, which is the more likely to bring about the desired result—a £50 variety, or a variety of which one can get a thousand for £50? I think the best way to improve a show schedule is to raise points immediately after a show and not to wait until the following year, so I venture to ask another question: Is the schedule arranged to attract the largest number of exhibitors? I doubt if there were more than two new exhibitors at this year's show. There was no class included in the schedule to show the decorative value of the Daffodil. There was such a class at the Spring Show in Dublin, held on April 13. Why not in London? At the Rose Show, held on the following day to the Daffodil Show, the "Decorative Classes" were many and well filled. "A very high official" might well take a hand in revising the schedule for next year's show.—SMILAX.

A FLOWERING SHRUB FOR TOWN GARDENS

OUR gardens have been much enriched by the introduction of the Olearias, natives of Australia, Tasmania and New Zealand. From the last comes Olearia Haastii a neat bush some 6 feet high, smothered in bloom in August, and all the more welcome because there are then so few shrubs in flower. It seems to thrive in every garden, and even does well in London.—G. J.

A BLUE-FLOWERED LITTLE CREEPING PLANT (PAROCHETUS COMMUNIS).

I WAS interested to read what "J." wrote of Parochetus communis in THE GARDEN of April 9. When I was at Ootacamund in the Nilgiris I came across the little plant; it was covered with lovely blue flowers and was always to be found in boggy, squishy ground. I never found it in the open country; it seemed to like its roots in shade, and it would straggle to the edge of rocks where the blooms could reach the sun.—(Mrs.) M. GAWNE, *Ottery St. Mary.*

Should Chefs or Growers Judge Garden Produce at Shows?

The Debate Continued—Including a Chef's Point of View

I HAVE so far refrained from intermeddling in this discussion, and my small right to express an opinion, after others have said their say, is that for some forty years I have been interested in, and have from time to time written on this subject, and have had thrust upon me as much, perhaps, as any private person the office of judging garden produce up and down the country. Mr. Beckett is almost as able on paper as on his land and the exhibition table, but it is an odd fact that not only he and his adherents, but his opponents too, miss or do not insist on the logical root of the whole matter. I take it that the intention of the Royal Horticultural Society's authorities, in their pronouncement about chefs acting as judges, was to assert or emphasise the undeniable truth that substances to eat can be discriminated and judged by the mouth and not by the eye. I call this an obvious and undeniable truth, and can anyone—even Mr. Beckett—contradict it? Would it not be lunacy to judge Roses or Lilies blindfold or in a dark room by *tasting* them? And are we not acting as ridiculously when we blindfold, so to speak, our proper instrument of taste and judge vegetables by the eye alone? If Mr. Beckett retorts that a show of cooked vegetables is a practical impossibility—and perhaps it is so—then the necessary and, I think, sensible conclusion is forced upon us that, after all, there is extremely little common-sense value in vegetable shows. I go further and maintain that they have been mischievous, in that they have perpetuated the preposterously false standard of judgment by outward appearance, and have helped to keep us going round and round everlastingly in a vicious circle. By this circle I mean that the British public is untaught as to invisible quality and buys by appearance, and that growers and market-men supply just what the public buys by appearance, without any attempt to teach it that appearances are commonly deceptive; and so we go round and round, *ad infinitum*. What meaning or value, apart from its bolstering up of this everlasting roundabout, is there in Mr. Beckett's laudation of an eminent market-man's "expert knowledge of the public's taste as conveyed by the demands of Covent Garden"? This seems a sad come down. Does Mr. Beckett really take his standard from the undiscerning taste—or absence of taste—of the unenlightened herd? He knows as well as anyone that what the great public swallows is a mass of mediocre stuff, outwardly presentable in size and colour, and that *this* is "the demand of Covent Garden." Take a concrete example or two. Mr. Beckett knows that when an early, prolific, bright red Strawberry of inferior flavour, such as Royal Sovereign, is introduced, it swamps other and better kinds and becomes "the demand of Covent Garden." He knows that the same has been true of the Turnip-flavoured Gros Colmar Grape and of big, prolific, coarse, tasteless Potatoes. He knows, no doubt, that in Paris the small-berried, small-bunched Chasselas Grapes are esteemed above all others, and that the French housewife will not look at our great, white, starchy Potatoes while she can buy the yellow-fleshed, well-flavoured French kinds. And he must know the reason (why shut our eyes to it?), namely, that the average French taste is sensible, refined and true, while the average taste of the British public, which he so extols, is foolish, unrefined and false. There is no lack of other instances running through the long series of our fruits and vegetables.

I fear I am not at all converted or impressed by Mr. Beckett's argument from the Royal Horticultural Society's Code of Rules for judging. It is true that in these rules only about a third of the total points is allotted to size. But is this restriction really operative? I confidently say no. The Code, as regards vegetables, which are chiefly under discussion, is hardly in requisition in the Vincent Square Hall, for the reason that vegetables are so seldom exhibited in competition. And in my very considerable experience in judging at shows up and down the country I assert that

A BEAUTIFUL FLOWERING SHRUB FOR THE AUGUST GARDEN (OLEARIA HAASTII).

size almost invariably wins. I have always had the greatest difficulty in persuading my fellow judges and the crowd to any other point of view. Why should I tell Mr. Beckett what he knows—that mammoth Onions always take first prize, whereas the householder should be taught to grow them medium-sized or small because they keep through the winter? Or that big Potatoes are similarly successful, though unboilable unless cut and spoiled? And so on and so on. I have no desire to fall foul of our excellent friends, Messrs Beckett, Poupart and Co. They are Britons, and it is a fine, patriotic custom to defend even poor taste in our countrymen—though it might be more patriotic to teach them better. Messrs. B., P. and Co. have inherited a permanent residence inside the circle of which I have written, and I do not see how they can easily get outside. Why should they if they are happy within? Still, I will end as I began, with the question: if it is reasonable to judge an eatable by looking at it, why is it less reasonable to judge a Rose by chewing it in the dark?—G. H. ENGLEHEART.

HAVING followed the correspondence in your pages on this subject, it is impossible to avoid the conclusion that on both sides the vegetable is judged from the artistic standpoint. The exhibitionists admire the beauty of the lines in a Cucumber, or the seductive rotundity of a Turnip. The gastronomists on the other hand discard the witness of the eye for the pleasures of the palate. Both of these views belong to the domain of the æsthetics. So far no voice has been raised from the scientific standpoint, and I therefore venture to forward the following suggestion: Vegetables are grown to be eaten we are told, and while this statement is true it is not the whole truth. Vegetables are grown rather to nourish the human body and to add certain important substances, without which life is impossible. It is therefore clearly of the first importance that those substances should be present and the "best" vegetable is that which provides them in the greatest abundance. Judges should therefore be accompanied by biochemists, who should take samples and submit them to an analysis. Points should be given for proteins, and anti-scorbutic vitamines, etc., while the important question of calories should not be forgotten. Put to such tests, the question of size falls into a very unimportant place.—SCIENTIA.

I HAVE followed this correspondence in your paper with interest, but no letter seems to have been published giving the chef's point of view, and I think his importance in the vegetable world has not been so fully appreciated by your contributors as by the Royal Horticultural Society. The crux of the whole question to my mind is whether vegetables are grown to look at or to eat. If the former, do not call upon the chef to adjudicate, but if the latter, the obvious person to consult is the expert who has spent many years learning how to select, cook and serve vegetables and who has made a life study of his patrons' tastes and palates. I employ in my various hotels and restaurants many chefs, several of them highly paid and travelled men. They one and all agree that we have much to learn from the Continent in vegetable growing, and if only expert vegetable cooks were consulted by their confrères the gardeners, the public, the gardeners and the chefs would all benefit. If the chefs had their way Mushrooms, for instance, would be more largely grown in this country, and be procurable all the year round at commercial prices, and not come from France and cost 3s. a lb. in the market, as they do even at this time of the year. In February fresh Mint costs nearly 1d. a leaf, and most households resort to the indigestible dried variety, whereas fresh Mint could be grown at the foot of the glass house in large quantities and sold at a reasonable price. Horseradish, the easiest of all vegetables to grow, costs more than a stick of Asparagus, and, I believe—whisper it softly—comes largely from Germany, where it is grown in 8ins. of soil over a concrete bottom to make it thick. Globe Artichokes, one of the most popular vegetables in France, are only seen here in the most expensive restaurants, and again come almost exclusively from abroad, yet I am informed they could be cultivated largely in this country. I grow them in my herbaceous border for their foliage. Before the war, Onions were imported from the Continent in large quantities, and we all remember the French peasants calling from door to door in the larger towns with strings of them hanging from their shoulders. Can we not grow Onions in this country? I am regarding the matter solely from the commercial standpoint, and I presume this is also the standpoint of the large vegetable growers, and I am convinced it will be to the lasting benefit of all concerned when the chefs have some say in the matter.—GEO. CROSS, *Rendezvous Restaurant, Soho.*

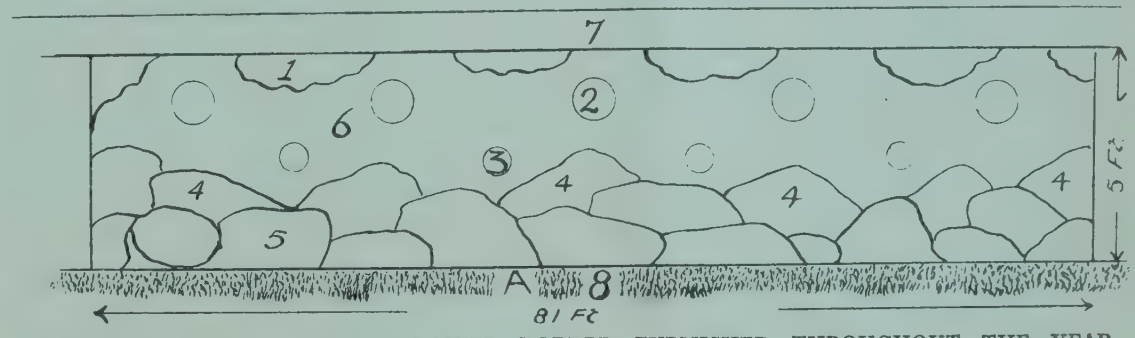
THE chef idea is *not* "progressive," as "Anne Amateur" would have us believe. Rather is it revolutionary in the highest degree, opposed to the tenets and traditions of centuries. Moreover, has not the Royal Horticultural Society (unwittingly) rather smacked its own face by taking (or suggesting) a step which is tantamount to an admission that the right men cannot be found within its own ranks? "Anne Amateur's" only qualification for the chef is because "vegetables are the materials he uses in his work." He may use other things, too, without of necessity knowing much concerning them. Mere size may often mislead and small roots that have developed slowly may be quite woody. Here it is that cultivation and quickness of growth make all the difference. Given these, pods of Prize-runner Runner Bean a dozen inches long would be far more succulent and tender than pods of other varieties half the length, that had taken much longer to grow. Happily, in judging such things, the cute gardener knows the signs and acts accordingly. What could prove of greater interest than small collections from "Anne Amateur" and Mr. Herbert Chapman respectively? Just to demonstrate the ideal each has in mind. The waste, too, of an ordinary allotment is often out of all proportion to its size; roots and green vegetables being permitted to occupy land that might have been growing a succession crop, far beyond their period of table fitness and utility, with, of necessity, a diminished food value. For such things remedies are needed. And instead of chefs at London shows, why not the Royal Horticultural Society to the rescue? By growing, showing—and, if needs be, demonstrating—the food values and utilitarian side of vegetable produce in some of the great centres of industry much that is worth doing might be done.—E. H. JENKINS.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SUGGESTIONS FOR A FLOWER BORDER (G. M. S., Lincoln).—It is rather late in the year to make arrangements for planting the border with a view to having it fairly well furnished, or even moderately so, throughout the year. The best plan to follow now would be to have the border gay during this summer, and next autumn to prepare the border so that the plants in it will furnish a moderate display of blossom the whole year round. Fig. A shows the ground plan. No. 1, Sweet Peas in clumps near the wall; or, if these are too tall, Ivy-leaved and scented-leaved Pelargoniums. No. 2, standard Fuchsias. No. 3, scented-leaved Verbenas and Heliotropes, the groundwork here being filled with Mignonette. Nos. 4, 4, 4, 4, clumps of Centaurea, silver-leaved, and a few dot plants of Perilla nankinensis. No. 5 to be filled



A PLAN FOR A SMALL FLOWER BORDER FURNISHED THROUGHOUT THE YEAR.

END VIEW OF THE BORDER.

with hardy and half-hardy annuals. Really, not a great number of plants would be required to fill the border, as overcrowding must be avoided. Such borders are usually informal and very attractive, especially if sweet-scented subjects are judiciously employed; for instance, a few plants of Tobacco (Nicotiana affinis) and several clusters of Night-scented Stock (Matthiola bicornis) are used. Till quite late in the evening the border would be charming. No. 8, grass: No. 7 represents the wall at the back. Fig. B shows the end view or section of the border. No. 3 climbers or plants on wall, No. 4 standard, No. 5 half-standard plants, Nos. 6 and 7 dot plants in front of border, Nos. 8, 8 Mignonette and sweet-scented Stock, and No. 9 annuals. Nos. 1 and 10 grass; No. 2, wall.

VIOLETS IN FRAMES (J. L., Doncaster).—The best method of growing Violets for blooming in frames is to root cuttings now in a cool, partially shaded place. Some of the most successful growers insert their cuttings about 2ins. apart in boxes of prepared soil. When the cuttings are well rooted they should be planted out in an open spot at 1ft. apart and grown there during the summer. Frequent attention is needed if the highest results are expected. The object of the grower should be to obtain sturdy, single-crowned plants, very like young Strawberry plants and with this end in view all runners must be pinched out as soon as they can be handled. Frequent hoeings of the surface soil are very necessary for the well being of the plants, and, in order to check red spider, they should be syringed early in the evenings of all warm, dry days. At about the end of September the plants should be transferred to the frames, where they will flower during the winter and spring. A good soil is a mixture of four parts of good loam, one of decayed leaf soil, with plenty

of grit and a good dusting of bone meal. The frames should be well filled with soil, so that when the Violets are planted the leaves would just touch the glass. One of the most common mistakes in growing frame Violets is that of placing the lights over the plants and shading them for a few weeks until they are established. This practice renders the plants soft and weak, a condition from which they never fully recover. The lights should not be placed over the plants until cold weather makes this absolutely necessary. The Violet is a fresh air plant and should be given abundant ventilation, except during frosts. In very severe weather coverings will be necessary. The sweetest and deepest blue is, in our opinion, the Czar and it is a very free bloomer. La France is also a fragrant variety, but not quite of such intense colour. Princess of Wales is still one of the best of its shade. Of double-flowered Violets we favour Comte de Brazza (white), De Parme, Lavender, Marie Louise (lavender blue and white), and Lady Hume Campbell for late flowering. Mrs. J. J. Astor (soft rosy heliotrope), is very striking and so is the new Mrs. Lloyd George.

TREES AND SHRUBS.

BEECH TREE ATTACKED ("Beech," Bucks).—The Beech tree is infested with Beech coccus and no pains should be spared to rid it of this pest which otherwise will eventually cause its death and quickly. The best thing to do now when the buds have already burst will be to spray the trunk thoroughly with paraffin emulsion at summer strength, or even go over the trunk where the infection is with a painter's blow-lamp. In winter scrub the tree in all affected parts with a solution of caustic soda—2lb. to ten gallons of water. Rubber gloves must be worn while this is being done.

HEDGE OF BROOMS (Felsted).—A trench dug 2ft. deep by 1½ft. wide and filled with garden soil would do quite well for the hedge. The most suitable varieties of Broom would be Cytisus præcox, which bears beautiful creamy yellow flowers and is at its best at this season; C. scoparius, the common Broom, and its variety, Andreanus, bronze and golden flowers; and C. albus, the white Spanish Broom, which could be kept at the required height by careful, occasional pruning. If the hedge is to be of fair length we should include Spartium junceum, in spite of its tendency to be relatively short-lived; fresh plants may so easily be raised from seed. In addition to the common Gorse, we should plant the double flowered variety. Gorse is not easy to transplant, so it saves disappointment if young pot plants are obtained.

ROSE GARDEN.

ROSE TREES ATTACKED (Gibbons).—The Roses have apparently been attacked by the fungus Botrytis, probably after damage by frost. In the normal way the parts affected would be cut out at pruning time.

ROCK GARDEN.

AUBRIETIAS NOT FLOWERING (H. W. H., Herne Hill).—As the plants have not flowered this season there is now but little likelihood of their doing so. The proper treatment is to cut back all the "long dry stalks" to within a couple of inches or so of the roots, and then they will form shapely little clumps which will flower well next year. This should be done now, and as soon as the new Aubrietias have finished flowering treat them the same; this pruning should be done each year. Unless the soil is fresh and good, it will be necessary to remove the old surface soil around the old plants and top-dress them with fresh soil. All the rock garden plants will benefit from frequent stirrings of the surface soil, even though no weeds are apparent, throughout the year.

THE GREENHOUSE.

ASPIDISTRA UNSATISFACTORY (Torquay).—The leaf of the Aspidistra is apparently from a plant that has been overwatered. Possibly the drainage has become stopped up and should be seen to.

HOW TO DESTROY SMALL BLACK FLIES (E. M., Surbiton).—The best course to adopt will be to fumigate the house with one of the recognised fumigants, and repeat it at an interval of a week in case eggs may hatch in the course of a few days. The house should be dry at the time, and the fumigation should be carried out after dusk.

VINE UNSATISFACTORY (A. E. P., Ryde).—The Vine is undoubtedly, we think, suffering from lack of water. It may be that the drainage of the border is at fault, and this should be attended to; otherwise, proper attention to watering is called for.

FRUIT GARDEN.

PLUM TREE ATTACKED ("Charts Edge").—The Greengage is badly attacked by silver leaf and nothing applied to the root will save it. The affected parts should be cut out completely behind a point where a brown stain is visible in the wood, for to that point the branch is affected. It may be that the browning goes back into the main stem, and if so the whole tree must be destroyed. The part cut away must not be allowed near the remainder of the plantation.

MISCELLANEOUS.

INSECTS FOR IDENTIFICATION (A. F., Salop).—The insects sent for identification are bees of the genus Ardrena. They usually construct their nests in sand-banks or garden paths.

LIQUID MANURE ("Jatear," Sheffield).—Liquid excrement of animals is much richer in plant nutriment than the solid, and should never be wasted. It should be absorbed by something like peat or straw and used in this way.

BIRDS AND NEWLY SOWN LAWN (Jatear).—If the lawn is not too large the most effective method of preventing birds from eating the grass seed is by covering the area with garden netting raised above it in much the same manner as when protecting Strawberries. Failing this, stretch sewing cotton in criss-cross fashion all over the ground at a height of about a foot, and at frequent intervals suspend hens' feathers from the cotton; an easy way of attaching the feathers is by splitting the quills slightly and inserting the cotton in the split. This method is usually effective. Should a few birds get through keep the surface damp by spraying when it is becoming dry, as seed-eating birds rarely trouble a damp seed-bed; this will also hasten germination without having any ill effects on the seed.

SELECTING AND WORKING A MOTOR LAWN MOWER (G. A. F., Tonbridge).—After deciding to employ a motor mower, the first essential is to purchase a machine that is designed to suit the lawn on which it will be used. To assist in making the proper selection the following information should be furnished to the makers to enable them to recommend the most suitable size: Description of lawn, whether flat or undulating, and if previously cut. Acreage to be cut. (The consumption of petrol varies from about 1¼ pints per acre with the 18ins. size, to about 3 pints per acre with the 36ins., under normal working conditions.) Maximum gradient, if any. The advantages claimed for the use of motor lawn mowers are: Great saving in labour and time. The lawns are rolled as well as cut. No marks are made by the feet of a pony or horse.

WATER SPRINKLER (Cotswold).—The apparatus described by our correspondent is evidently an elaboration of the system that has long been in use in the pleasure grounds at Kew and elsewhere. At Kew it takes the form of lengths of iron piping, perforated at suitable intervals, supported at each end by runners, and connected with the rubber hose. It is a very effective method of watering over large areas. We are not favourably impressed by the method mentioned by our correspondent of fitting spray nozzles to the pipe. This must greatly increase the cost, and unless the water supply is exceptionally good and clear, we should expect the nozzles to require frequent attention. For watering a garden of average size we should prefer to use one of the standard sprinklers, such as the Pluviette. In some of the large commercial gardens of the United States the watering of the glasshouse crops is often done by fixed sprinklers. Perforated iron water pipes are attached to the inside of the glasshouse, and the watering done simply by turning a tap and permitting the water to flow for a definite period; this is determined by the estimated requirement of the crop in conjunction with the known water pressure.

NAMES OF PLANTS.—D. M. V., Surrey.—Pimelia ferruginea.——E. K., Pulborough.—Clianthus puniceus.

SOCIETIES

NORWICH SPRING SHOW.

THE Spring Show of the Norfolk and Norwich Horticultural Society was held on April 21. It was gratifying to note that the attendance was well over that of the preceding year. Owing to the earliness of the season the Narcissi were only sparsely represented to what is the usual case in a normal season. Colonel B. J. Petre, Westwick House, had far away the best of these in the Show and included in his several exhibits were many seedlings of great merit shown without name. Another fine feature was the group of alpine and other rock plants which came from the gardens of Sydney Morris, Esq., Earlham Hall, Norwich. There were the best and most recent of the Saxifrages, Primulas and Gentians, to mention only three subjects. The gardener, Mr. J. E. Fitt, had also made a special display of flowering shrubs which commanded great attention. Of flowering trees and shrubs by far the best and most comprehensive exhibit came from J. H. Christie, Esq., Framingham Manor; there were over sixty named varieties, from small sprays of Rhododendron Keysii to huge trails of Genistas, Prunuses and Berberries in great variety. This group was awarded a gold medal. In Auriculas, Dr. Osburne, The Grove, Catton, carried all before him. Dr. Osburne also excelled in many other classes of pot plants, special mention being due to his six extra fine plants of Calceolaria Clibraini and his dozen Stellata Cinerarias. Of the large formed flowering type of herbaceous Calceolarias, those from Mrs. H. J. Copeman, Newmarket Road, Norwich, were fine indeed. From Colonel H. R. Fletcher came six extra well grown pots of Mignonette. Many other subjects in greenhouse and hardy flowers had classes devoted to them.

Fruits were not a strong feature, the best Strawberries (Royal Sovereign) came from J. H. Christie, Esq.

Vegetables were good. A fine collection was put up by Major D. G. Astley's gardener, Mr. E. Chettleburgh. Mr. William Allan, Gunton Park, had the best Cabbages, the variety being "Incomparable," a local variety of his own. The trade helped very effectively in making the Show interesting. Messrs. Daniels Brothers, Limited, Town Close Nurseries, Norwich, had a fine group of rock plants and many other subjects. Messrs. Ben Cant and Sons had an effective group of their new Roses. Mr. G. W. Miller, Wisbech, contributed rock plants and Polyanthus in great variety. Messrs. Reamsbottom staged a group of the bright St. Brigid Anemones.

OBITUARY

MR. ARCHIBALD FINDLAY.

WE regret to record the death of Mr. Archibald Findlay, the celebrated Potato raiser, which took place at his residence, Mairsland, Auchtermuchty, on April 21. Mr. Findlay was a native of Freuchie, Fifeshire, and was in his eightieth year when he died. He devoted his principal attention to raising new and superior varieties of the Potato which would be immune from disease. In this he was wonderfully successful, and many of his new varieties have maintained their high quality for a long time. At Markinch he raised that grand variety The Bruce, and his name is associated as raiser with Eldorado, which some years ago brought almost fabulous prices. British Queen, Jeanie Deans and Farmer's Glory are among those best known as due to his skill as a raiser.

A Wash for Fruit Trees.—For syringing trees outdoors and orchard-houses. Take 12lb. of fresh Quassia chips, to be had at the chemists or horticultural sundriesman, and boil 6lb. at a time in six pails of water. When cold, boil again to get all the strength from the Quassia; strain, and take the liquid, now reduced to four pails, and add 1½lb. of soft soap, half a pint of Abol insecticide and two wineglasses of paraffin oil to the 12lb. of Quassia.

Le Mans International Horticultural Show, 1921.—After a lapse of eight years the Annual Congress of the French Chrysanthemum Society will be revived. It will take place at Le Mans on November 5 to 13 next, and in conjunction therewith there will be a great International Horticultural Show of flowers, fruit and vegetables. The Executive earnestly invite British exhibits and visitors, to whom a most cordial welcome is promised. The following advantages are offered: All exhibits not accompanied by the owners can be sent by rail; they will be staged by competent persons appointed by the Executive. The jury will include a number of British horticulturists. The rate of exchange offers an immense pecuniary advantage to British visitors. Schedules and all further particulars can be obtained from C. Harman Payne, Commissaire Général of the British Section, 195, Wellmeadow Road, Catford, S.E.6.

The Gardeners' Royal Benevolent Institution.—We have received from Lord Lambourne the following appeal on behalf of this deserving institution, which we hope will be well supported: "As President of the Royal Horticultural Society I have been brought into close touch with the aims and objects of the Gardeners' Royal Benevolent Institution—a most deserving National Horticultural Charity—the great benefits of which to many most worthy necessitous men and widows for the past 82 years I can amply testify. In order to obtain the necessary means to support the 251 annuitants now being assisted, as well as to give immediate temporary help in cases of distress, the Duke of York has most kindly consented to preside at the Seventy-eighth Annual Festival Dinner in aid of the funds on May 27 next at the Hotel Victoria, London, and I venture to express an earnest hope, notwithstanding the difficulties of the times, that all lovers of gardening and flowers—and their name is legion—will support the gracious endeavour of His Royal Highness by being present at the dinner, or by sending a contribution to be placed on the subscription list to be announced on the occasion. Any donation will be gratefully acknowledged and may be sent to Sir Harry J. Veitch (Treasurer) at the offices, 92, Victoria Street, Westminster, S.W., or to yours very faithfully, LAMBOURNE, RT. HON., C.V.O."

THE GARDEN

No. 2582.—Vol. LXXXV.]

NOTES OF THE WEEK

[May 14, 1921.

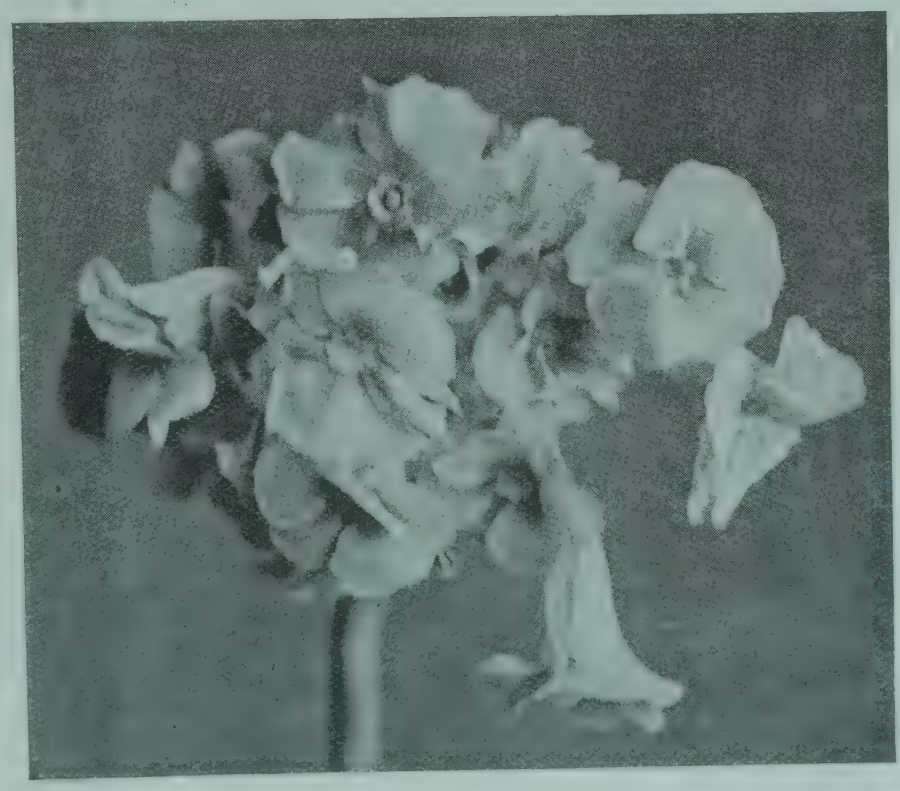
THERE can be little doubt that the Polyanthus is a cultivated form of the common Primrose (P. vulgaris) with the stems developed. For colouring they are unsurpassed in the spring garden, and yet they are not cultivated in gardens as much as they ought to be. Thanks to the skill of the hybridist—who, by careful selection and hybridisation, has given us the modern race of Polyanthuses—flowers are now to be obtained beautiful in form and colour. There are many strains of Polyanthus Primroses, and quite recently we received from Messrs. Blackmore and Langdon flowers of a new strain in many hues from deep crimson to orange and pale primrose. The plants are large, but not coarse, and the flowers are refined and well modelled, borne on long, stout stems. Polyanthuses are very beautiful and will without doubt be in every garden within the near future. The Polyanthus is easily raised from seed, which should be sown immediately it is gathered, that is, about the end of June. Any good loam suits the Polyanthus with the addition of sand, leaf-mould and rotten cow-manure. They enjoy a partially shaded and sheltered position.

A Beautiful Dwarf Poppy.—The brilliant hued Papaver umbrosum seems to be entirely overlooked in most gardens and yet it is one of the most telling of hardy annuals and well deserves a place in every flower garden. A native of the Caucasus, it is very hardy and the plants growing under 18ins. in height are less liable to be damaged by rough winds than are some of the other Poppies. Except on heavy, moist soils, seed may be sown in early autumn and the plants will then flower quite early in the following summer. It also succeeds admirably sown from the middle of April to the middle of May. Sow the seeds thinly in rows, 9ins. to 12ins. apart, and when well up, thin down to 6ins. or 7ins. from plant to plant in the rows. An occasional stirring of the soil with the Dutch hoe is all the further care necessary.

Dressing Asparagus Beds with Fish Manure.—It is an excellent plan to dress the beds several times during the season of cutting. For early dressing nothing is better than fish manure. It is an excellent fertiliser and does not retard growth by keeping the beds in a cold, wet state. Fish manure being very powerful, it must be applied with care. Failing fish manure, it is an excellent plan to dress the beds with guano and a mixture of soot and agricultural salt.

Sowing Pickling Onions.—Early May is a favourable time to sow this crop. Select an open plot where the soil is firm but not over-rich. The drills should be drawn about 6ins. apart. Sow thinly and allow all the seedlings to remain without thinning. By sowing on firm and rather poor ground the bulbs produced are of the size most desired for pickling.

Raising Vegetable Marrows.—With ordinary care plants raised about the middle of this month will be in good condition by the time the weather is suitable for planting. Sow in 6in. pots and keep in a frame over a gentle hot-bed. In preparing sites for Vegetable Marrows see that they are well exposed to the sun and sheltered from cutting winds. Heaps of fresh manure are not essential, although a fairly rich bed is certainly needed.



THE FLOWERS OF THIS STURDY STRAIN OF POLYANTHUS PRIMROSES ARE LARGE AND HIGHLY COLOURED.

Scarlet Runners.—As a rule May 14th, is early enough to sow in the open in most districts. Scarlet Runners succeed best on strong, fertile soils. Seeds should be sown in double rows 9ins. apart, allowing not less than 6ft. between the rows. Isolated rows are most productive in small gardens, as other crops may be grown up to within 3ft. of the row.

French Beans.—As with Runners, it is not safe to sow French Beans much before this date, and then only a part should be sown. Select a warm south border for the early sowing. For the smaller-growing varieties the rows should be 2ft. apart and for the stronger growers 30ins. will be necessary.

The Dropping of Peach Buds.—Complaints have already reached us of buds dropping from Peach trees. This is usually brought about by extremes of drought or moisture, heat or cold, direct sunshine or shade. The modern use of all fruit houses for the storage and growth of other plants is probably one of the fertile causes of so many flower buds dropping at the present day. The old cultivators were most dissatisfied with a good crop of Peaches sandwiched with Strawberries. Now many houses are overcrowded with trees, which have hardly room to breathe for other plants. The remedy may possibly be found in raising and insisting on the old cry, "The Peach house for the Peach trees."

Thinning and Disbudding Apricots.—The thinning of the fruits and disbudding of surplus shoots call for attention almost concurrently. Both operations should be carried out a little at a time and thus avoid giving the trees any check. Undersized and badly placed fruits should be removed first, and the final thinning avoided until it is quite clear which fruits are properly swelling. In dealing with the disbudding much depends upon the trees, and no hard and fast rule can be given to suit all. Wood required for extension should be carefully attended to and kept intact, likewise in a great many cases some good base shoots should be laid in to cover any possible gaps which may occur. Where too thick and badly placed, the shoots should be removed and others pinched to induce spur formations. A few good syringings will help the trees to grow away freely and cleanly, but this must be done sufficiently early in the day so that the fruit and foliage are throughly dry before night

FORTHCOMING EVENTS

May 24.—Chelsea Show, to be held in the Royal Hospital Gardens, Chelsea (three day

May 25.—Irish Gardeners' Association Meeting

Tulip Time—the Time to Learn Next Year's Lesson

Tulip time comes when there is a dearth of other gaily coloured flowers, and for next year's guidance the best varieties should be noted while they are still in the height of their beauty. The writer of the following article indicates the varieties of which he thinks highly. Readers should try to see them while in bloom this month.—ED.

A FEW Darwins opened before May Day, but most of them began to show colour in the first week of the month. An early giant is Valentine, a beautiful violet-mauve, with an electric blue base. The huge blooms last for three weeks. Another early opener is Pride of Haarlem, a bright cerise, with a quantity of carmine in its colour blend, rather a difficult shade to harmonise. It is a noble flower, well formed, and generally 30 inches tall. Soon after it comes a softer cerise, which opens cherry-pink and turns to rosy carmine in the later stages. In this flower the rose tint is predominant. In the paler rose shades among the earliest flowers is a fine variety in Sieraad van Flora, a veritable queen. Edmée, a pale pink with rosy tips opens about a week later.

The first week in May usually sees most of the purple and violet shades out: Marconi, of rich, deep colour and fine form; St. Simon, hardly as large and with a reddish sheen on the outside; Jubilee, Geefs, The Bishop and Moralis, all inclining to violet.

There are many dazzling scarlets in full flower, too. Isis is one of the best. It is very bright and has a clear blue base, with a white border. Feu Brilliant is a magnificent flower, with a tinge of orange in its vermilion-scarlet. Ariadne is a tall scarlet, with a large, long cup. Glow, equally bright, but of smaller proportions. City of Haarlem is the monster of this group. Its big, blood-red flowers are of wonderful lasting qualities.

In paler shades, Suzon and Sophrosyne are pretty in their soft hues of creamy-rose. Psyche and Massenet are just as dainty, the latter being one of the loveliest of all the Darwins, and one which gives a change of tints in its various stages of development.

As a contrast, La Tulipe Noire, Fra Angelico, Leonardo da Vinci and Auber are all striking in their blackish-maroon shades, each with a glossy sheen as if it had been touched by the brush of some great Italian painter. Nothing is so attractive in the dark shades unless it is the browns and bronzes of the breeders, Dom Pedro, Louis XIV and Turenne.

But the Darwins do not display their full beauty till Clara Butt appears in soft salmon pink dress, and Mr. Farncombe Sanders in a coat of cochineal red. These with the lovely lavender-lilac of Rev. Ewbank are three of the most popular varieties and ought to be in every Tulip collection.

I cannot pass the charms of the following without some short comment. Allard Pierson, of rich shining maroon; Corydon, a pale lilac, with a bronzy sheen, shading to silvery grey; Crépuscule, reminiscent of the purple colours of the twilight; La Tristesse, with a curious shade of slaty lilac on the outside and a coppery violet veneering on the inside; Mrs. Potter Palmer, one of the richest of the mauves; Millet and King Harold, deep crimson maroons; the deep salmon-rose Yolande, and even the despised magenta of William Goldring.

Cottage Tulips begin to open after the first week in May. Their shapely, spiral form gives a graceful touch among the bolder, square-shouldered Darwins. I like the long waisted blooms of Mrs. Moon, a gem among the yellows. Moonlight of softer shade is also very beautiful. Then there is the still more softer tinted primrose of Gertrude, Flava and Leghorn Bonnet.

Feu Ardent is a fine early scarlet, followed later by more brilliant varieties, such as Scarlet Emperor, Coronation Scarlet and Mauriana, the latter nearly vermilion. Flame colours abound in such richly hued types as Emerald Gem, with a bright green base, Lion d'Orange, Marksman, Orange King, Caledonia, Hammer Hales, and that very fine late variety, La Merveille. Sunset and Golden Crown are splashed and streaked with scarlet on their yellow backgrounds.

Cassandra is a clean flower of bright cerise, which the sun lights up like a lantern. Its short habit makes it an ideal bedder.

There is an indescribable mixture of colours in the bronzes and shot shades. Queen Alexandra has purplish streaks on its lemon yellow ground colour; there is chrome, apricot and pale purple in the mingled tints of Jaune d'Œuf; Bronze Queen has rosy-lilac and amber-bronze; Goudvink, chestnut-gold; John Ruskin, egg-shaped blooms of orange, pink and apricot; Faerie Queen, light purple, with pale primrose margins; Beauty of Bath, a delicate mixture of lemon and rosy heliotrope, and The Fawn, a suffusion of rose on white and a band of salmon on the outside. Inglescombe Pink opens a delicate rose pink, changes to varying tints of salmon-pink and apricot, all harmonising with its lovely starred blue-green base.

The last of the Cottage varieties to bloom is Pride of Inglescombe, with dainty edge of rose-pink on its white ground. The colour slowly diffuses till it covers in streaks and faint pencillings the whole flower. When the hot days of June tell their tale among the fading colours there is still a solitary splash of pink in the disappearing Pride of Inglescombe.

NORMAN LAMBERT.

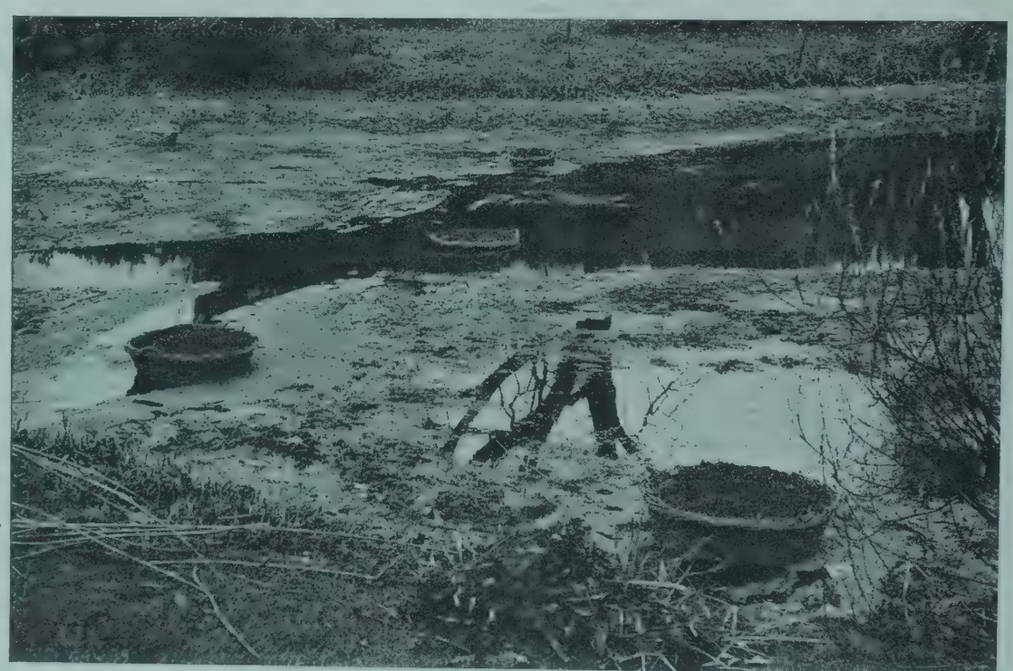
Hardy Water Lilies: Preparations for the Summer Must be Made Now

The Sound Advice here Given will Dispel much of the Misunderstanding that Exists.

Time to Plant or Divide.—The right season of the year, so far as my experience has taught me, has now arrived when these lovely floral gems of our lakes, ponds and pools may be safely planted, or, if needful, be divided and planted afresh. I have found the end of April or early in May to be the best and safest time to plant or divide. When I received my first consignment of plants, now some years back, they were so small that I planted them in shallow Strawberry punnets some 10ins. or so across. I found them to do well the first season in these small receptacles. The following winter I lost one only, viz., Nymphæa flava, which I ought not to have attempted; but we must learn some things by our failures as well as by our successes.

I removed them the following spring and placed them into old nursery round baskets about 2ft. in diameter. In these they remained for about two years. Then I put them into larger and similar baskets, some 3ft. and some 4ft. in diameter, in accordance with the vigour of the plants. The next process, a few years later, was to divide the stools, making some three or four separate planting crowns of each of the strong-growing kinds. Others that do not grow so strong—as Nymphæa odorata and its varieties—were not so sub-divided. All of this work I have done as stated either late in April or early in May, according to the season.

This spring, for instance, it may be assumed that the present will be suitable. When using the larger baskets, we used to slide them back into the water upon two running planks, and pull them as far as needful by means of ropes from the other side of our pond. It is quite necessary in every case



BASKETS CONTAINING WATER LILIES PLACED IN POSITION FOR PLANTING.

for the well being of the plants to secure the crowns in their baskets by means of string that will ultimately decay.

Reasons for Divisions of Crowns.—The reason why some of the more robust varieties need subdividing is the dense growth that is made and by the numbers of offsets. The marliacea section as represented by N. marliacea chromatella, N. m. albida and N. m. rosea are all vigorous growers. Thus it will frequently happen that the leaves will thrust themselves far above the surface of the water, instead of floating, as they should do. The remedy for this is division, and afterwards to place them, wherever possible, into deeper water. These varieties and others that possess long petioles, or leaf-stalks, indicate by this distinctive feature that deeper water will suit them. I have seen N. m. chromatella thriving in as much as 9ft. of water, and frequently in 6ft. or thereabouts.

The Best Soil to Use.—My practice has been to use good fibrous turfy loam mixed with road scrapings and some decomposed leaves. The latter I prefer to use at the bottom of the baskets. This soil should all be made as firm as it can be by using the hands only. I do not recommend animal manure of any kind whatever. Some, I know, do use it, and for one season perhaps it may be beneficial in some cases. I am, however, disposed to form an opinion that by the use of such stimulants a disease is engendered. This has been known to be the case. There is, I consider, quite sufficient detritus in our waters for Water Lilies to thrive well without such manures being employed.

The Best Positions to Choose.—It may be accepted as a general guide that all Water Lilies thrive best in the full sunshine, at least for a part of the day. Any excess of shade is prejudicial to their well being. Those that possess flowers of the deepest shades of colour all look at their best when the sun shines upon them; then they sparkle like so many diamonds upon the surface of the water. Still water is best for them at all times. Running water, where the motion is quite perceptible, is not congenial to them. I noted this once when going up the Rhine from Cologne to Mayence, on my way to Frankfurt. I watched closely for any symptom of Water Lilies, but only descried them in quite a sheltered pool, or backwater, so to speak, where the water was comparatively motionless. I observed the same upon the Norwegian Lakes. It was only in the more sheltered recesses that they appeared to revel. In a mountain tarn well above Coniston Water I saw this same characteristic. It may, I think, be taken as an accepted fact that the quieter the water is the better will they thrive. J. H.

The Blue Water Lily

THE blue form of Nymphæa stellata, illustrated on the front cover, is beyond doubt one of the most exquisite Water Lilies in cultivation. The clear sky blue flowers are seen to advantage as they rise on slender stems at least 18 inches above the surface of the water. It has one fault only, namely, that it is not hardy, and in this respect it just misses being an indispensable subject for English gardens. In the gardens at Gunnersbury House it has for some years been successfully grown in a little sheltered pool where the temperature of the water is kept about 65° Fahr. by means of hot-water pipes placed low in the water. From Gunnersbury this blue Nymphæa has been sent to Wisley, where each summer the plants may be seen flowering with great freedom in an open tank. It was in late April that the plants were first taken to Wisley, and, within four days from the time of planting, the first flowers made their appearance. Since then there has been a constant succession of flowers through each succeeding summer until the end of September. The Nymphæas are planted between bricks in a mixture of sand, leaf-mould and loam. The tank, which is protected from the north and north-east, has been specially made to accommodate the Blue Water Lily. It contains about 4 feet of water and is supplied with hot-water pipes, although no heat is applied in the warm summer weather. It is thought that so long as the ice is kept away in winter, the plants will come to no harm. Although in a sheltered position, the plants receive full benefit from the sun. This is as it should be, for an excess of shade is prejudicial to all Water Lilies, while the flowers always look their best when the sun shines upon them. H. C.

The Best Climbers for the Greenhouse

A JUDICIOUS use of climbing plants will serve to tone down the harsh angles of the interior of the greenhouse and impart a finish to that structure. For the accommodation of the climbers a bed may be prepared underneath the stage in which they may be planted out, or they may be grown in pots or tubs. If a bed for planting them out is made, effective drainage must be provided for. As light is so essential to the occupants of the greenhouse, most of the climbers should be reasonably pruned back in the autumn.

The following is a short list of climbing or rambling plants that are suitable for furnishing the roof or rafters of a greenhouse: Abutilon, Asparagus plumosus, Clematis indivisa, Cobæa scandens, Habrothamnus of sorts, Hibbertia dentata, Hoya carnosa, Jasminum grandiflorum, Kennedya of sorts, Lapageria alba, L. rosea, Lonicera sempervirens minor, Lophospermum scandens, Mandevilla suaveolens, Manettia bicolor, Maurandia Barclayana, Myrsiphyllum asparagoides, Passiflora of sorts, Plumbago capensis, P. c. alba, Rhynchospermum jasminoides, Solanum jasminoides, Sollya heterophylla, Swainsona galegifolia, Tacsonia of sorts, Tecoma jasminoides, and Tropæolum of sorts.

BY PLANTING WATER LILIES NOW A GOOD DISPLAY OF BLOOM MAY BE ENJOYED TILL THE AUTUMN.

THE MOST ATTRACTIVE OF SUMMER-FLOWERING BULBS

There is still time to plant Gladioli to provide a Succession of Flowers from Early August to Mid-October.

IT is over twenty years ago since I first became interested in the Gladiolus. It was the year Mr. Childs issued his catalogue with two large coloured reproductions of Irises and Gladioli. I purchased a collection of the latter and continued to grow them until they died out or were discarded. It was in 1906 that the late

ONE OF THE NEW PRIMULINUS HYBRIDS: COLOUR, RICH SALMON PINK.

Mr. Childs introduced America. Since then many hybridists in Europe and America have been steadily working for the improvement of these beautiful flowers. Their efforts have been so successful there can scarcely be any comparison made between the varieties I first grew and the wonderfully beautiful large flowered varieties of to-day. Prince of Wales, Loveliness, Hubertus, Liebensfeuer (Love's Fire), Rev. Ewbank, Incontestable may be mentioned among those which never fail to please wherever grown.

Then there is the new class of Primulinus hybrids, introduced by Wallace (1908) and Kelway (1910) in England, Lemoine in France, and Kunderd (1915) in America as well as by many other Continental growers. Of the varieties in this class Alice Tiplady, Canonite, Countess Torby, Canopus, Fire Fly, Fire Queen, Golden Drop, Golden Girl, General de Wett, Kitty Grullemans, Maculatus and Maiden's Blush are a few that may be relied upon to give satisfaction to those trying this class for the first time.

Now is the time to plant. No other summer-flowering bulbs are as attractive and useful for house and garden decoration; their perfect flowers are borne on tall, graceful spikes often having twenty or more buds, and if cut and placed in water when the lowermost flower opens every bud will develop into a perfect flower, often covering a period or twelve to fourteen days before the last flower is gone.

No garden these days should be considered complete without one or more plantings of this queen of all summer-flowering bulbs. They are not exacting as to soil and culture. They will grow and bloom under the most unfavourable conditions, yet, like everything else grown, they do best in good soil, supplemented with care, and will respond wonderfully to good nourishment and culture. Planting every ten or twelve days from now to the second week in June will give a succession of flowers from the end of July to October. If you have the success you should have and the blooms are at their best about September 6 next, bring them up to the Royal Horticultural Society's meeting on that day and compete for the Foremarke Cup. SMILAX.

Farewell to the Daffodils

ONE of the most striking flowers in the garden at The Grove, Old Catton, at present, is Anemone nemorosa Alleni. It has a much larger flower than A. Robinsoniana, and the blossoms are a rich warm mauve. A group of Tulip Orphaniden also affords a striking note of colour, the blossoms being of a curious bronze scarlet. That wonderfully veined flower, Iris Hoogiana, is blossoming freely, together with the curious chocolate coloured Charon growing near it. Iberis warleyensis gives a wealth of mauve pink colouring, though not so pleasing in tint as the Daphne Cneorum.

Owing to the early season many of the best Daffodils are over, but King Alfred, White Knight and Buttercup are still flowering among the trumpets, and Will Scarlet, with its large expanded orange cup, and the Poeticus Kestrel are both looking beautiful. Among the Darwin Tulips the following are perhaps the best: Marconi, a rich black maroon; Moralis, a deep plum colour; Frans Halls, a rich crimson plum; Remembrance, heliotrope; Inglescombe Pink; Fanny, an apricot pink; Pink Beauty, carmine, striped white; and Quaintness, an orange bronze. But glorious as the brilliant flowers are, for quiet pearl like beauty

THE PURE YELLOW DAFFODIL BUTTERCUP IS ONE OF THE LAST TO FLOWER.

the Ornithogalum nutans, with its elegant spike of blossoms glistening with a silver sheen and emerald stripe, is in its way perhaps even more exquisite. H. H. W.

SOME ACCIDENTAL GROUPINGS

THE grouping of plants in a rock garden or in odd corners often proves most effective and always more pleasing (when a success) than the results of design. One pretty little corner has been giving us pleasure for many weeks this spring. Here are two irregular, now weathered, grey rocks of somewhat upward tendency. Between them, quite filling the space, is a Japanese Azalea of procumbent form, not more than 9ins. high and covered with flowers of a clear but soft pink. Looking over from behind is a clump of Synthyris reniformis with half a dozen spikes of softest lavender, while creeping round the foreground is a little mat of Aubrietia argentea variegata, rather shyly, almost delicately, furnished with lilac blossoms. To the outer margin of this add

with Cyclamen-like flowers in pale mauve and purple, and I hope the reader may gather something of the simple charm of this accidental combination.

A rather more spacious affair is the broad, irregular foreground of a half-shaded bed which slopes from a little colony of various shrubs of the Pieris group to the base of a large Alder and the water. A few boulders, moss-covered, are partly concealed by Omphalodes verna and Tiarella cordifolia, and the hazy azure of Anchusa myosotidiflora leads down the slope with Anemone apennina to the wonderful blue of the incomparable Omphalodes cappadocia. Flanking the prevailing blue of the above towards the margin is a patch of Aubrietia Lavender and another of Perry's Blue. Here also has Cardamine pratense fl. pl. (which out of hundreds of seedlings never throws a single) colonised itself in various odd places, and whose rosy lilac is just enough to bring into the "colour scheme" without too great an abruptness the lovely blush of Primula rosea. The last mentioned stands a little apart from the rest, alone adorning a tiny promontory at the edge of the rippling stream.

Another little patch which has "just growed" is not so full of colour, yet strangely attractive. It consists of no more than a half-sunken, moss-covered rock, to one side of which a very orderly cluster of Bruckenthalia spicata raises its fuzzy green, now bronzy tipped. Scattered thinly about are many of the quaintly pretty blossoms of Anemone trifoliata, the soil being carpeted with the glaucous green of Acæna Buchanani. Then, on the opposite side of the rock, where the bronzy Acæna inermis has spread itself, there is a colony of the delightful Erythronium californicum, pale yellow and orange and sweetly scented. There are other things to follow here as elsewhere, but, as it stands, there is a spring-like quality of freshness about that modest group which is arresting.

Mistakes there may be, of course, lots of them, in these chance groupings. It does not do to be too fastidious. And one gets used to things which at first may have seemed wrong. A colony of Primula Juliæ, for example, cheek by jowl with Azalea amœna, with a bold rush of Aubrietia Peter Barr near enough to be one of the company, sounds a trifle heavy. But in most of these cases one always has the saving grace of green to ameliorate contending or ultra-bold colouring.

Azalea Hinodegirii is a ruthless crimson when it is in full blast, and when thinking over how it might be subdued and rendered less opulent and splendid for the humble garden I came across it occupying a ledge, while all about, around and below, were redundant masses of Helichrysum bellidioides. The hoary softness of this plant, with its suggestion of dull purple, together with the lichened rocks which made the background, seemed to conquer the blazing audacity of the Azalea.

There is one more "effect" to which I always look forward, a mere tangle at a bend of a woodland path. Description it will hardly bear. Suffice it to say the principal figures in the piece are native Ferns, Borago laxiflora, Saxifraga cunifolia on the moss of path and boulder, arching branchlets of Cotoneaster congesta, soon to support the clinging flower trusses of Arenaria montana, wild Woodruff and a few tufts of Welsh

[A. T. JOHNSON.

THE DEVELOPMENT OF THE IRIS

Has the Double Flower Come to Stay?

ARE there, among readers of THE GARDEN, many wooers of the more coy Irises? If so, they are not few who regret the infrequency of reference to those incomparable blooms, to the experiences of those who woo, to the triumphs of such as win. The literary neglect of Oncocyclus and Regelia distresses me, and in this state, although my contact with horticulturists is limited, I know myself to be not singular.

A TWIN FLOWER OF IRIS HECATE, HAVING SIX STANDARDS AND SIX FALLS.

Surely in these days of renascent wonder and delight in the cult of flowers, there shall arise a new champion of rare Irises! Silent now and for ever are Ewbank and Foster; Mr. Eden Philpotts, his tribute permanently recorded in the most delightful chapters of a delightful book, is no more the journalist of iridiculture; and on no Elishas have the mantles of these Elijahs fallen.

One feels the more astonished at the fact when one has just been privileged to see the exquisite perfection of some few Cushion Iris blooms. Half fearful of overnight disaster, half tremulous with anticipatory joy, I go a-tiptoe these mornings to the little greenhouse that fills a sunny angle of my home. For weeks a row of pots containing the relatively unfastidious Susiana has kept me on tenterhooks. Day after day the buds maintained their smug torpedo form, swelling imperceptibly, reluctant, as it seemed, to open to the caress of our unardent northern sun. But yesterday two had burst forth fully. At this sudden beauty who had not stood stunned? Out of the long, lean torpedo buds had leapt since dawn these spread wings of silver, purple veined, these sabled falls, each blossom a grown hand's width across. I do not like to hear of Susiana as the Mourning Iris. Reverie rather than sorrow does she induce. She is the grey lady, the lady of dreams.

To-day another strange thing has happened, and I know not whether to be shocked or jubilant. Perhaps a more experienced Iris-lover can give me light. Hecate, a so-called Oncocyclus wherein, methinks, Regelian influence is visible, has just borne a monstrous twin-blossom from a single bud. There are six distinct standards, and six falls, and—here is the oddest thing of all—one of these latter, evidently unable to be certain whether it should be fall or standard, takes the standard's upright attitude, but, hesitating still, effects a compromise by taking on the coloration of both, so that one half of it is rosy-purple, while the other is the orthodox brown-veined cream of all the other falls. Now, who will tell me what this means? Am I to rejoice at the advent of a double Iris, or should I deplore a vulgar prank, a freak, an undesirable monstrosity? Anyway, the plant shall be photographed, so that all interested may see at least the form of this (to me) strange thing.

M. GIBSON.

The Size of Yew Trees

IN the correspondence about the size of Yew trees Mr. H. H. Warner does not catalogue the one in the churchyard here. It is 24ft. in circumference; it is surrounded by a stone seat, which it is now pressing out. The centre trunk has died at the top, but there seems to be plenty of new life making itself felt, as from the trunk round the top of the seat many fibrous roots are growing. I should also like to add, in the same churchyard there is a magnificent Italian Cypress (Cupressus sempervirens) which reaches to within 1ft. of the top of the battlement of the tower and so is 45ft. high.

J. W. R. BROCKLEBANK.

Longbridge Deverill Vicarage, Warminster.

IN reply to the enquiry in THE GARDEN by "R.G.," on April 2, relative to the size of Yew trees in Scotland, Dr. John Lowe in his work on "Yew Trees of Great Britain and Ireland," gives the following measurements of their girths taken from 1ft. to 2ft. from the ground. Those in Loudon Castle, about which "R. G." particularly enquires are mentioned. Ellon Castle, Aberdeen, four trees, 13ft., 12ft., 11ft., 10ft.; Pitmidden, Aberdeen, two trees, 14ft., 13ft 9ins.; Loudon Castle, Ayrshire, two trees, 13ft. 8ins., 11ft. 7ins.; Dryburgh, Berwick, one tree, 14ft. 3ins.; Bonhill, Dumbarton, two trees, 12ft. 7ins., 11ft. 2ins.; Rossdhu, Luss, one tree, 14ft. 3ins.; Inch Lonaig, Dumbarton, four trees, 12ft. 7ins., 11ft. 3ins., 13ft., 10ft. 7ins.

Roseneath, Dumbarton, one tree, 15ft.; Forgan St. Andrews, Fife, one tree, 12ft.; Kirton of Forgan, Fife, one tree, 14ft.; Glamis Castle, Forfar, one tree, 10ft. 3ins.; Ormiston Hall, Haddington, one tree, 15ft.; Whittinghame, Haddington, three trees, 12ft., 11ft. 4ins., 11ft.; Yester, one tree, 10ft. 4ins.; Glenmorriston, Fort Augustus, Inverness, one tree, 14ft.; Old Castle, Kincardine, one tree, 13ft. 6ins.; Cleish Castle, Kinross, one tree, 12ft.; Craignethan Castle, Lanark, one tree, 10ft. 5ins.; Rosslyn, Midlothian, one tree, 10ft. 3ins.; Abercurny, Perth, one tree, 10ft. 7ins.; Lawers, Perth, two trees, 14ft. 2ins., 10ft. 4ins.; Fortingal, Perth, one tree, 56ft.; Parkhill, Perth, one tree, 14ft. 5ins.; Dargavel, Renfrew, one tree, 9ft. 4ins.; Craigends, Renfrew, one tree, 21ft.; Ferniehurst Castle, Rosburgh, one tree, 10ft. 7ins.; Ballikinrain, Stirling, one tree, 11ft. 5ins.; Bantaskine, Stirling, one tree, 11ft.; Callandu Park, Stirling, one tree, 11ft.; Argomery, Stirling, one tree, 15ft. 6ins. The celebrated Fortingal Yew is undoubtedly the most astounding tree which Scotland has produced. Pennant measured it and he gave the girth as 56ft. in the year 1769. It was also described by the Hon. Davies Barrington. De Candolle, who measured it in 1831, assumed it to have reached the age of 2,500 years! Patrick Neil in 1833 writes of "what exists of the trunk." Sir R. Christison states that "from the *remains* it is not easy to satisfy oneself that they belong to what was one tree only." Dr. Lowe himself regards it as a compound tree, formed by rings of younger growth or by the coalescence of distinct stems rising from the base. On visiting the tree in 1887, after sixty-six years, he found that the circle had diminished in size since he first saw it. Assuming that the girth of the great trunk was 52ft., the measurement recorded by Barrington for the year 1769, which gives a diameter of say 17ft. or a little over, if the increase of growth be reckoned at 1ft. diameter in seventy-five years, the tree would be 1,300 years old. It seems unlikely that the diameter in a tree of this character would give a true idea of its age. How many centuries elapsed since the coalescing stems grew up round the old, decayed trunk? It would be of the greatest interest to know if any remains still exist of a tree that appears to have been the largest, and which, if still living, is probably the most ancient in the British Isles. What a potent germ of life that small seed must have contained from which the mighty tree sprung! The dimensions and duration of this Yew tree appear fabulous. If it ever reached the circumference of 56ft. it was nearly twice the size of the Hambledon Yew (30ft. 9ins.), which I measured recently. H. H. WARNER.

SUCCESS IN POTTING CHRYSANTHEMUMS

THE majority of the young plants intended for exhibition purposes will require potting now, some for the first time and many for the second. Inexperienced cultivators, who, however, wish to excel in the production of high-quality blooms, in many cases think that there is some great secret in the mixing of the composts.

The secret of success as regards this phase of the cultivation of the plants may be found in the use of a simple mixture of good, sweet ingredients and not in a fancy mixture. Sound fibrous loam, two parts; sweet, half-decayed leaf soil, one part; rotted manure and coarse sand, one part. To a bushel of the above combined parts add a 6-inch potful of wood ashes and a single handful of bone meal. First spread out thinly the fibrous loam, then sprinkle the sand on it and add the other ingredients; turn over the heap several times and the compost will be ready for use.

The pots must be quite clean and dry, especially inside; also the crocks. If any of the plants are rather dry, water them several hours before the work of potting is to commence. Crock the pots carefully; it is the neat way in which the potsherds are placed and not the number of them that ensures efficient drainage.

At this early stage of the plant's growth very firm potting is not necessary, but the compost must be carefully pressed down and if there is not free play for the fingers between the ball of soil and the side of the pot, use a large wooden label or a similar piece of wood. Leave ample space at the top of the soil so that water may be easily applied. The potting compost should be in a medium state of moisture, then the work can be well done and there will not be any need to water till two or three days after the potting, but if there is bright sunshine, a gentle syringing in the forenoon will freshen the plants.

Comparatively cool treatment is the best now and onwards, that is greenhouse followed by frame treatment. Place the plants on shelves rather near to the roof glass, but avoid overcrowding. Careful watering and ventilation, with ample room for the plants to grow in will help, mainly, in the retention of the basal leaves, which is such a desirable condition. All young plants needing support should have a small, neat stake placed to them forthwith to prevent any accidental breakage.

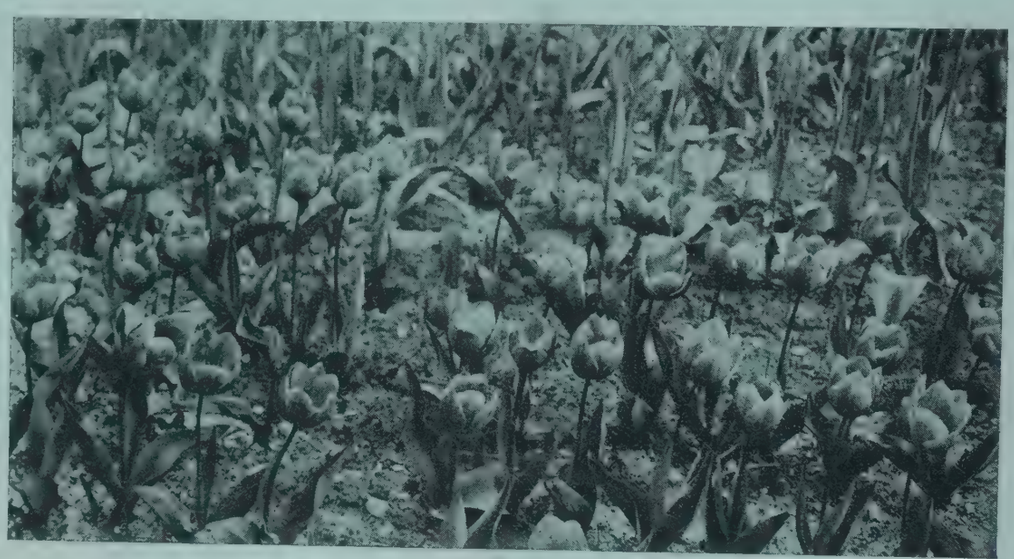
The work of stopping certain varieties so as to ensure the appearance of the best buds just at the right time, in August, I hope to deal with later on. Rust, which is, I am afraid, rather troublesome on young plants this season, resembles iron rust and may be found in patches on the undersides of the leaves. Procure some mona sulphide (sulphide of potassium), it is blue-grey in colour and hard, resembling a piece of rock. A quarter of an ounce dissolved in half a gallon of rainwater will make a safe dipping solution. Dip the plants in the solution several times in one week. Retain the solution airtight in an earthenware or glass receptacle and the unused rock sulphide also in a corked bottle and duly labelled. G. GARNER

TOO MUCH ALIKE VARIETIES

A Comparison in Early-Flowering Yellow Tulips

I HOPE a year will never pass away without my having a trial of something or another either in the greenhouse, or in the garden, or in both. Even allowing trials to be a *bene-esse*, it by no means follows that they must be all of one type. Individuality and opportunity have full play in their selection. A collection of Berberis such as we find at Aldenham is one form of trial, and such a Rose garden as that of Mr. H. R. Darlington is another; and from these and other even more Baconianly magnificent efforts at one end of the scale, there are gradations innumerable until we come to the trial of a single small plant, such as I am just now starting, thanks to the kindness of an unknown and yet well known French friend (M. Thibault of Nogent-le-Rotrou), who has just sent me a little pad of Mentha Requieni—"a minute creeping herb"—saying that he uses it himself to carpet the pots wherein he grows some of his more delicate Narcissi. This somewhat lengthy introduction is just intended to show that the choice of subjects for trials is a wide one, and that that of early-flowering yellow Tulips is but one of the innumerable fish who live in the unknown sea.

The varieties of which I am about to write were as follows: Yellow Prince, Chrysolora, Prince de Ligny, Yellow Pottebakker, Rising Sun, Hildebrand, Golden Queen, Ophir d'Or, King of the Yellows, Mon Treson, Yellow Queen, Mr. Burger, Buttercup, Goldfinch, Jaune Supreme, Calypso, and four seedlings, which so far have never left Whitewell and which go by the garden names of Canary Queen, Golden Beauty, Golden Gem and Cream Beauty. The whole collection was planted in one bed, 30yds. long by 4ft. wide, so as to get as nearly as possible the same conditions for each. The results have been both interesting and surprising. As it is a very ill wind that blows nobody any good it has been exceedingly fortunate that we had that polar-tropical week which began on April 9. It made a splendid test



PLANTED AT CLOSE QUARTERS TO MAKE SURE OF THEIR RESEMBLANCES AND DIFFERENCES.

Sunshine, heat, frost, snow and hail all took a star turn during those few days at worrying the poor Tulips. The lucky ones, whose flowering season comes rather later than the others, came out of the ordeal best. These were the four seedlings mentioned above and Hildebrand, Rising Sun and Jaune Supreme. Of the others I have little hesitation in placing Prince de Ligny at the top. It was really wonderful how it braved the elements. I put it down to the pointed shape of its flowers and its good stem. I liked it, too, because of its habit as it has quite a decent length of stem, which is an asset not common to them all. Mon Treson I place next. Then I think probably King of the Yellows, but the slugs made an all too successful inroad on the patch and there were only two or three blooms to judge by. Ophir d'Or was the deepest yellow. It astonished me very much to find how nearly alike all the varieties were in their colour. In bright sunlight it was difficult to see much difference between any of them except my own four and Calypso and Yellow Queen. These two last were very much alike and might have been own brothers to the very pale Hermann Schlegel. I did not care for them at all. Of those that came to perfection later Bird of Paradise and Hildebrand were distinctly good. The first named is a very shapely flower and of a deeper shade than any other variety except Ophir d'Or. The other—Hildebrand—is a big, solid-looking bloom in which the outer segments incurve on their edges after the manner of Euterpe among the Darwins. Mr. Burger and Buttercup did not do themselves justice, partly, I fear, because of the attacks of slugs, but I do not think I would ever put them before Hildebrand and Bird of Paradise. Jaune Supreme is distinct, inasmuch as it has a very long-shaped flower and is slightly paler in colour.

My first great surprise, as has already been said, was to find how much alike all the varieties were in their colour. It was only on dull days and when they were getting quite old that the differences—such as they were—became plain. My second great surprise was to find that my four seedlings were considerably paler than the others, and also that they were later to come into bloom. Cream Beauty comes very near Moonlight. Golden Beauty has rather a pointed flower and did splendidly, and for the time, at any rate, has dethroned Canary Queen, which I have hitherto looked upon as the pick of the bunch. It can be lovely indeed with the deep lemon edge to its canary coloured petals. I must not, however, go on writing about this last little group. They were only intended to be mentioned to show how necessary it always is to compare flowers with one another at close quarters in order to make sure of their resemblances and their differences.

JOSEPH JACOB.

Did the Doctor Overdose His Tulips?

Or are Tulips less robust this year by reason of an Early Season and a Bad Ripening Period during last Summer and Autumn?

'TWAS May-day when I called at The Grove, Old Catton, Norwich, at the invitation of Dr. Cecil Osburne, to have a walk round his garden, and especially to see the Tulips. There were Darwin, Cottage, May-flowering and Parrot, all thoroughly well represented, hundreds upon hundreds of them. What a galaxy of colour and a variation of form!

But what struck me rather forcibly was why many of those varieties which should be tall and stately had become dwarfed, as it were, and if the early season was the cause, or, let me whisper it, had a dressing of basic slag given at the time of planting by the doctor's instructions been for "good or evil."

Some Narcissi and Daffodils adjacent to the Tulips received a dressing of bone-meal at the same time. There was striking evidence in that case that the dressing had done good. What has our learned bulbist the Rev. J. Jacob to say?

I saw a bloom of the dainty variety saxatilis, the one and only out of a batch of twelve bulbs. The doctor was proud of it, and seemed satisfied with only one, having had all failures in other years.

H. PERRY.

Useful for Table Decoration

THE curiously recurved flowers of Tulipa retroflexa give to this plant a peculiar charm and make it quite distinct from all other garden Tulips. The origin of T. retroflexa appears a little doubtful, although it is generally believed to be a garden hybrid between the Turkish Tulip, T. acuminata, and T. Gesneriana, the latter parent, according to Baker, being the original stock of most of the late-flowering Tulips. Whatever the origin of T. retroflexa may be, it is unquestionably a beautiful subject, worthy of extended planting in the open, and of great value for cut flowers and table decoration in the spring. It is quite easily grown, and produces its soft yellow flowers in early May.

H. C.

HE RECURVED BLOOMS OF TULIPA RETROFLEXA.

CORRESPONDENCE

AN EARLY SPRING FLOWER.

HACQUETIA EPIPACTIS mentioned by Mr. Elwes in his charming article on "My Spring Flowers" (page 188), is not much grown, probably because it has not much brilliancy. It is, however, a most attractive little flower, whose earliness is a great point in its favour. Its character was well summed up by the late Mr. Reginald Farrer, who characterised it as "a pretty little curiosity, suggestive of a wee glossy-leaved Astrantia, some 2ins. or 3ins. high, with many-rayed heads of minute golden flowers enclosed in a frill of clear green leaves." Mr. Farrer added what seems an excellent idea for planting, by saying that it "has its special place among the spring Anemones with whom it blooms." I have never tried it associated with these Anemones, but the suggestion is one I hope to take advantage of some day.—S. ARNOTT.

ELEVEN BLOOMS FROM A SINGLE BULB.

IN a bed of a hundred mother bulbs of Narcissus Cervantes in my garden in Midlothian, one bulb showed eleven blooms, several nine, and six and seven blooms on one bulb were quite common. No bulb had less than six flowers.—S. C.

FLOWERING PLANTS FOR BOWLS.

THERE have been several interesting articles in THE GARDEN lately on the subject of flowers for the house and table decoration. I wonder if any of your readers have tried lifting a good root of Forget-me-not just coming into flower and putting it, mould and all, into a bowl with a little water in the bottom. The flowers come out rapidly, and in a very few days it is quite beautiful. I have a shallow black bowl now on the table before me filled with a root of Forget-me-not which is one mass of blossom. I have tried Primroses in the same way and they also look charming. In the early spring when flowers are scarce it is worth trying.—A. F., *Hereford.*

THE MOTHER BULB OF CERVANTES SHOWING ELEVEN BLOOMS.

THE ORIGIN OF THE LOGANBERRY.

THIS matter was discussed in your paper some time ago, and I then sent a note from a traveller who stated that she had eaten Loganberries in Columbia, where they grew wild This rather surprising statement has some light thrown upon it by a recent article in the "American Journal of Heredity." In the June number, 1920, Mr. Wilson Popenoe describes and figures an enormous Berry, which grows near Bogota, and is named the Columbia Berry, the Latin name being possibly Rubus roseus. This grows high up in the mountains, being found between 8,000ft. and 10,000ft. in a cold, rather moist climate. The fruit is quite twice the size of the Loganberry, being very often 2½ins. long by 1½ins. in breadth. Its habit is semi-climbing with undergrown runners. When eaten raw it has not a very great merit, being rather dry and seedy; but when cooked it is said to be very good, the flavour resembling the Loganberry. Mr. Popenoe thinks it would not be hardy in most parts of America, and therefore probably not in this country; it, however, may be of value to the plant breeder. The object of this note is to clear away a possible theory of the origin of the Loganberry which the writer suggested, and which is now plainly untenable.—E. A. BUNYARD.

THE ROSEBUD CHERRY OF JAPAN (PRUNUS PENDULA).

IN your issue of April 23 (page 206), the tree depicted in the illustration is the Weeping Gean, Prunus Avium var. pendula, and not Prunus pendula, the Rosebud Cherry of Japan. As a specific name the use of "pendula" by Maximowicz is unfortunate, it being the most useful and generally adopted varietal name for trees of weeping habit. As however Mr. E. H. Wilson in "The Cherries of Japan" conclusively shows, Prunus pendula, Max. is a variety of P. subhirtella, the name Prunus subhirtella var. pendula, Tanaka should be adopted in gardens for the Rosebud Cherry or Weeping Spring Cherry of Japan. Mr. Wilson states that "The Weeping or pendulous Japanese Cherry is nowhere known in a wild state but is to be found in the courtyards, and ground of temples, and old castles and in the cemeteries all over Japan, except in the more northern districts." The Rosebud Cherry is only seen in good condition and is then a delightfully elegant tree in sheltered or generally favourable positions, being a rather tender and less robust subject than the attractive Weeping Gean.—A. O.

A CHOICE ROCK GARDEN PLANT.

I AM pleased to see that Polygala Vayredæ continues to maintain its existence in this country, although a native of Spain. I first observed it in 1905, and have seen it several times since then. It was shown at a recent meeting of the Royal Horticultural Society. It is essentially a plant for the rock garden, growing only a few inches high, and resembling P. Chamaebuxus very closely in habit; but the evergreen leaves are linear, not shaped like those of the Box, and its flowers are pale purple. Little space is required for it, and it seems quite happy when planted at the foot of a boulder or large stone, fully exposed to sunshine. The stone would serve to keep the soil cool in summer, and fairly dry in winter by throwing off the rainfall to a great extent. The past few winters, it is true, have not been severe, but if frost is not of long duration the roots do not get injured in fairly dry soil. Evergreen plants suffer first when the supply of moisture gets cut off by the freezing of the soil.—HORTULANUS.

AN EXCELLENT SUBJECT FOR THE ROCK GARDEN.

ALTHOUGH originally introduced in 1775, Ranunculus montanus is not so frequently met with in private gardens as one might expect, considering its dwarf, neat habit and the bright golden yellow of its flowers. The rootstock, or underground portion, branches freely, but remains compact. This makes it easy to propagate, while it never assumes a running habit. It is an excellent subject for the rock garden, if a moist or cool situation is selected for it. In this country it blooms more or less from April to July, but in France it continues till August on the mountains. It is essentially a mountain plant, spreading about in the woods and among the grass. When it occurs on the margins of streams it gets carried down to the valleys in the form of seeds, and thereafter appears on the margins of those streams or rivers, but never far from their banks. In the

wild state it varies from 2½ins. to 6ins. in height, carrying one or sometimes two large flowers. Judging from its wide distribution, the species should prove easy of cultivation under a variety of treatment and in various soils, provided the moist condition of the situation is kept in mind. In Europe it extends from the Pyrenees and the Alps to Greece. Beyond this it extends to Western Asia and North Africa. Its earliness should recommend it to all who take delight in rock gardening.—H.

MINIATURE POPPIES FOR THE ROCK GARDEN.

I WAS glad to read (page 193) Mr. Arnott's recommendations under the above heading, for the miniature Poppies he refers to are irresistably charming subjects for the rock garden. Here most kinds grow freely and seed profusely along the hard, gravelly soil at the edges of the paths. Though not true Poppies, I would like to suggest in addition to those mentioned by Mr. Arnott, Eschscholzia tenuifolia and E. cæspitosa. These make little tufty, erect-growing plants of 6ins. or less, their finely cut, glaucous foliage being surmounted by golden yellow flowers all summer and autumn. These blooms are about the size of a shilling; they open flat like a Buttercup and are held upright. Those of E. cæspitosa are rather more golden than the pale primrose colour of the other, and I think the former the more pleasing. When a bee alights on one of these blooms both flower and insect are borne over to the ground. But no sooner has the bee "let go" than the flower springs back to the perpendicular as if its stem were made of steel. A small packet of seed scattered at random about sunny spots will yield a number of plants, and many of these like the Californian Poppy itself, will be perennial in a light soil. But the two dwarf species mentioned do not trouble by seeding as the common plant is liable to do—not with me at any rate.—J., *North Wales*.

GENISTA ANXANTICA.

UNDER this name (if I have the spelling right!) I secured a little shrub a few years ago which has been a great delight every summer. In many respects it resembles Cytisus purgans, the closely-set, leafless twigs of a greyish-green being held stiffly upright. But it differs from the humble parent of the lovely May-flowering Broom in having rather larger flowers, more of them and a powerful, yet most delicious fragrance. At times this little charmer will fill the garden with its fresh, wild flower scent, yet it is not much more than a foot in diameter each way and was by chance "stuck in" on the top of a retaining wall adjoining the south side of the house, a place so dry and hot that it had been called, well—yes, something that rhymes with "well."—A. T. JOHNSON.

THE HARDINESS OF LITHOSPERMUM ROSMARINIFOLIUM

I WAS pleased to read the note (page 106) on this subject. Late last autumn I secured a nice bushy plant, and it, together with several other things in pots, were put in an old frame minus two-thirds of its glass. Later, when I was away from home, came a sharp frost, and among the occupants of the frame which perished, or which were badly injured, were the prostrate Rosemary, Aloysia citriodora, some Salvias, Convolvulus mauritanicus, and some rooted cuttings of various half-hardy shrubs. But, to my surprise and delight, L. rosmarinifolium was not only alive and well when I returned to count my losses, but it was bearing several of its lovely blooms both flower and insect are borne over to the ground. But no sooner has the bee "let go" than the flower springs back to the perpendicular as if its stem were made of steel. A small packet of seed scattered at random about sunny spots will yield a number of plants, and many of these like the Californian Poppy itself, will be perennial in a light soil. But the two dwarf species mentioned do not trouble by seeding as the common plant is liable to do—not with me at any rate.—J., *North Wales*.

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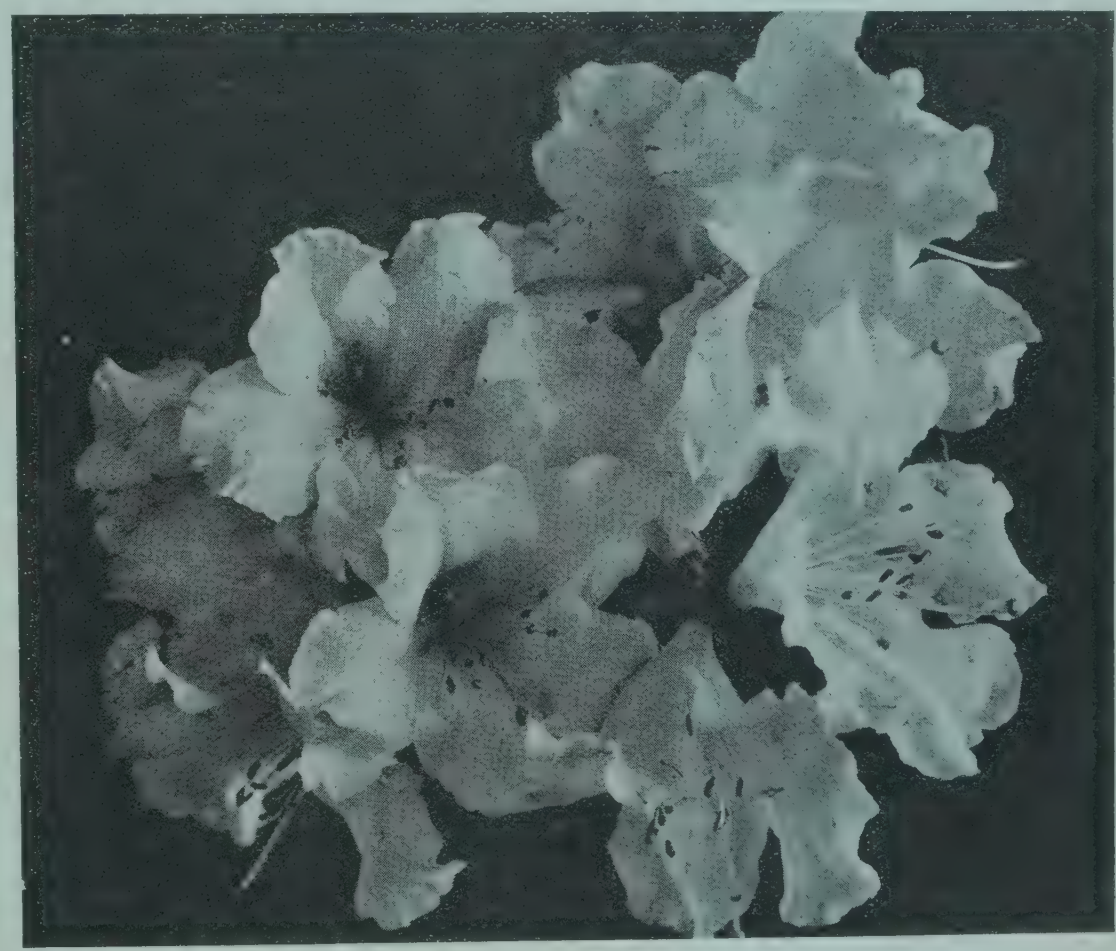
the plant has been increasing in beauty ever since. The blossoms, which are over half an inch across, are to my eyes an exquisite Gentian blue of the purest tone, though the opening buds have turquoise tints. Doubtless the flowers of this charming species may suffer when grown outdoors in this climate, as "E. H. W." suggests, but I believe the plant is as hardy as most others of its race. I am hoping that L. rosmarinifolium will blossom later when established outdoors, and it would be interesting to hear how it behaves in this respect in the gardens of other readers.—A. T. J., *North Wales*.

A RHODODENDRON FOR THE COOL GREENHOUSE.

EACH succeeding year emphasises more and more the value of the beautiful Rhododendron ciliicalyx for the cool greenhouse. The first seeds were sent home to France by the Abbé Delavay in 1884. One of the seedlings raised was obtained for Kew in 1890. The plant is now about 7ft. in height and as much in diameter.



RHODODENDRON CILIICALYX IS BEYOND ALL DOUBT ONE OF THE MOST BEAUTIFUL SUBJECTS FOR THE COOL GREENHOUSE.

Throughout April it has been a conspicuous feature of the Himalayan House, covered with a profusion of flowers. Usually three flowers in a truss, they are 3½ins. to 4½ins. across, opening freely flushed with pink, changing with age to white. Cultivated in large pots or tubs, R. ciliicalyx thrives best when stood in a sheltered position outside from June to September.—A. O.

A NOTEWORTHY RHODODENDRON.

THROUGHOUT the later part of March and early April Rhododendron ciliatum has been in full flower, proving its ability to withstand inclement weather to a remarkable degree. One of the parents of R. præcox, it is a noteworthy little shrub, very distinct in the hairiness of its broad, blunt, leathery leaves, and a charming object when in flower. The blossoms are borne singly or in small clusters. Individually they are sometimes 2ins. across, and the colour is a

BLUE WOOD ANEMONES.

IN regard to the enquiry of "Zennor" in his note (THE GARDEN, page 219) on the various coloured Wood Anemones in Cornwall, the late F. H. Davey in his "Flora of Cornwall," 1909, merely gives var. cœrulea D.C. (of A. nemorosa) from all the eight divisions of the county, except Division I. But he makes no comment, beyond giving localities. The first recorder of this blue variety in Division VIII was Ralfs of Penzance; Mrs. Adamson recorded it from "Between St. Ives and Zennor." Referring to the "Flore Française," edition iii, by Lamarck and De Candolle (1805), vol. iv, page 884, we find var. β purpurea, J. Bauhin, "Hist." 3, page 412, and var. γ cœrulea are given. We are told that cœrulea, "according to Mons. Dufour, is fairly common in the Dept. of the Landes, and has a beautiful blue flower, but because of this character it must not be confused with A. apennina, which as far as I know has not yet been found in France. The var. β has the flower quite purple." Both these varieties appear to be ignored by Grenier and Godron, by Gillet and Magne, and by Coste in their subsequent Floras of France; but they describe the flowers of nemorosa as white, rose, lilac or purplish. I believe A. apennina has not been recorded, as an alien or denizen, in Cornwall, though it grows in that state, for example, near Dartmouth in South Devon. In April, 1919, I found in a copse close to Sidcot School in Somerset a small Wood Anemone with pale greenish yellow flowers, though not growing in a particularly shady spot. It is remarkable that no Anemone is recorded from the Channel Isles, though Guernsey was once well wooded. And indeed it appears that Ranunculus is the only genus of the Ranunculaceæ found in any of the islands.—H. THOMPSON.

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GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Dahlias.—Roots of these which were not introduced into heat to furnish cuttings may be planted direct into permanent quarters, thus saving time and labour, as it is unnecessary to start the tubers under glass previous to planting. Those used to furnish cuttings and the young plants must be well hardened off before putting them out.

Calceolarias.—Where it is convenient to do so, these may be planted now in a semi-shady position for preference, as these plants are not at home in full sunshine. On light soils it is advantageous to give a mulching of decayed leaf-soil a little later in the season to assist in keeping the roots cool.

Roses.—Considerable attention must be given to these plants for a few weeks now, especially should they form a feature of the flower garden. The three chief enemies to wage war upon are green fly, maggots and mildew. Hand-picking is the surest way of dealing with the maggots; while syringing with one of the many approved articles on the market will check the other two troubles, or a dusting of Tobacco powder will deter green fly and sulphur dusting will do the same for mildew.

The Kitchen Garden.

Kohl Rabi.—This may be sown at any time between the latter part of March and early August in rows 18ins. apart. The thinning of the seedlings may be done twice if preferred, leaving a few inches at first and then from 6ins. to 10ins. finally. By this method it is possible to make use of the small roots at second thinning.

Beans.—When making the necessary sowings of Runners and Dwarf, the most valuable Dutch Brown must not be forgotten, for it is unrivalled for growing to be used in its dried state during the winter months. Sow it now in a well cultivated piece of ground and allow the plants at least 1ft. each way.

Lettuce.—Fairly frequent sowings are necessary to keep up a good supply. As the season advances it is advantageous to sow thinly where the plants are to mature, and thus reduce to a minimum loss of plants through pricking out, which must sometimes be carried out under unfavourable climatic conditions. This also means a saving of labour.

Marrows.—Where a few hand-lights or frames can be spared and placed on a declining hot-bed an excellent start can be given to these plants. A later batch to follow will need no such help if the weather is more settled and it is to be hoped free from frosts.

The Hardy Fruit Garden.

Strawberries.—Previous to bedding down the Strawberry quarters with clean straw in readiness for the fruit to rest upon, the ground should have a final hoeing to thoroughly cleanse and check as much as possible the advent of weeds. At the same time give the ground a dusting of matured soot and a dressing of fertiliser if thought necessary. A supply of clean loose straw should always be at hand to scatter lightly over the plants when in flower should a cold night threaten.

Mulching.—The value of this operation cannot be over-estimated for the maintenance of a proper degree of moisture to the roots of fruit trees, more especially to those on walls. Failing partially decayed manure to mix with leaves, use should be made of lawn grass cuttings mixed with the latter.

Plants Under Glass.

Pricking Out, potting on and growing of such plants as tuberous Begonias, Gloxinias and Streptocarpus call for considerable attention, but this may be met by a systematic working of the batches required, and by arranging if possible for a warm, moist pit which can be easily shaded, to be allotted to them during early stages of growth and the pots given an ash-bed to rest upon, which helps at all times to give an evenness of atmospheric moisture.

Begonias for winter flowering should be potted on into light rich soil as they become ready, and additional batches of cuttings inserted.

Celosia plumosa and C. cristata make an excellent show in the conservatory, and are also useful for bedding purposes, but when thus used a number of plants must always be held in reserve, as they have a most unfortunate habit of suddenly "going off," and may possibly mar an otherwise satisfactory bedding arrangement. To obtain large, well grown plants no better spot can be found for growing them than a frame in which there is a declining hot-bed.

Fruit Under Glass.

Thinning Grapes.—This somewhat tedious work calls for more thought in dealing with late varieties than with earlier ones, inasmuch as, although well filled, compact bunches must be the aim, sufficient room must also be given each berry for its proper development and finish, or its keeping qualities will suffer accordingly. An expert man with the scissors may complete the task at one attempt, but it is an exceedingly doubtful operation, especially with such as Alicante, and a second thinning is more satisfactory. With the variety named another look over after the stoning period generally reveals a few more berries to be removed.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Salads.—Constant supplies of Mustard and Cress will now be looked for, so weekly sowings should be made, thus ensuring nice fresh supplies. Do not sow in too sunny a position, as this produces tougher and less juicy material than when the plants are grown in a slightly shaded part. Regular sowings of Radishes should also be made. Lettuce should also be sown and pricked out regularly, making use of frames that have been cleared of bedding material.

Spinach.—The main sowing of New Zealand Spinach should now be got in. Sow in shallow drills fully 2ft. apart, as it grows vigorously, throwing up fine fresh leaves which are much prized during the autumn and winter months. Judicious thinning will be necessary when the plants attain a height of about 3ins.

Peas.—Early rows will now require staking, and very often this work is carelessly carried out, little attention being given to the height of stake necessary or the quantity required. It being a great mistake to crowd in too many bushy branches, thereby excluding the necessary sun and air, rather spread out the heavier stakes along the row and work in lighter material between them so that the maximum of sun and air may find play among the growths. Further sowings of Maincrop Marrowfats should be made at this time.

Seed Beds.—Examine all seed beds carefully, and if any should have failed sow again at once, as seeds sown now germinate quickly and readily make good the time lost.

Beet may now be sown in quantity. Choose the finest sorts, as it is as easy to grow good varieties as inferior ones. Although the cultivation meted out to this important vegetable at times tends to coarseness in the root, especially if grown in too rich a soil, it should always be grown on ground that was manured for a crop the previous year. Sow in drills about 1½ins. in depth and 15ins. apart. When thinning, leave a space of 8ins. between the plants.

Chervil.—This useful herb should be sown now on a nicely prepared bed, choosing a warm situation. It is used largely in some households for flavouring purposes and salads, also for the garnishing of cold meats.

Hoeing.—Where the ground is beginning to harden and cake between seed rows or other plants the hoe should be plied regularly. Nothing contributes more towards successful cultivation than the constant use of the Dutch hoe among growing crops, as the ground is not only aerated, but soft weeds are kept in check as well.

Fruit Under Glass.

Pot Fruit.—Attend to the disbudding and thinning of the various pot fruits, using discretion in the encouragement of growth on the younger trees. As judicious treatment at this period will prove the groundwork for shapely and well furnished specimens for ensuing seasons, see that the plants do not suffer from lack of water, for if allowed to become dry the result will be fatal to the crops' chance of being carried to a successful finish. Liquid manure may be given, care being taken that the plants are in a moist condition at the roots. Keep the syringe going to prevent attacks of insect pests.

Vines.—With increasing sun-heat it will be found necessary to keep a moister atmosphere in Vineries which have already been thinned, maintaining a brisk temperature at night. Vines that are carrying heavy crops should receive liberal feeding. Keep all sub-laterals in check, and ventilate as required.

Plants Under Glass.

Repotting.—At this period a good deal of repotting will occupy attention, and wherever possible the work should be carried through without further loss of time, as plants in small pots if not attended to often become hard and stunted, with the result that vigorous growth is checked and such specimens seldom do credit to a capable gardener.

Crotons and Dracænas which have been topped and successfully rooted should now be potted up and plunged in a close case for a few weeks, spraying overhead morning and evening.

Gloxinias.—Further lots of these should be moved into their flowering pots. Keep in a genial atmosphere until root action commences, afterwards transferring them to cooler quarters. Let the compost consist largely of leaf-mould, sharp sand and peat.

Hard-wooded Plants which have now made growth and have been duly hardened off may now be transferred to a sheltered plunge in the frame ground and so relieve congestion in plant houses.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

LURE OF THE TOWN GARDEN

How to Obtain a Bright Display in Shady and Cramped Positions

Preparing for the Summer Display.—In many town and suburban gardens, owing to the high walls, fences, corners and general closeness of many houses, there are partially shaded borders. In the latter such plants as the following will be successful, namely: Vincas (Periwinkle), Foxgloves, Spiræas, Solomon's Seal and hardy Ferns; these will do particularly well under trees. In less shaded borders select for planting Campanulas, Irises, Lilies (various), Delphiniums, Violas, Columbines, Hepaticas, Saxifragas, Asters, Pæonies, Pyrethrums, Sunflowers, Carnations, Candytuft and Mignonette.

The Window Boxes.—These are thought much of in a town garden and rightly so. In the most sunny windows fill the boxes with the following plants: Petunias (especially the single-flowered), Zonal Pelargoniums, Balsams, Lobelias, Mignonette, Night-scented Stock (Matthiola bicornis), Verbenas and Marguerites. In the shaded windows use Fuchsias, Saxifragas, Sempervivums and Sedums, together with Ferns and Mignonette.

Flower Beds.—Of course, thousands of people will aim at filling their flower beds with such plants as Pelargoniums, Lobelias, Salvias, Marguerites and Begonias; but there are thousands more who cannot afford to spend a sum sufficient to buy these kinds of plants. In this case raise hardy and half-hardy annuals, such as Asters (double and single flowered), Ten-week Stocks, Marigolds in variety, Phlox Drummondii, Mignonette, Cornflowers and Virginian Stock, a dwarf-growing plant flowering profusely and suitable for edgings to beds. Throughout the month of May all the kinds of annuals named may be sown in the open border. There need not be any transplanting, but a careful thinning-out in due course, if the slugs do not work too hard in this direction. The seedlings must be closely watched and protected by sprinkling soot round them in showery weather. At a very small cost practically every town garden may be made beautiful during the summer-time.

GEORGE GIBBS

Britain's Hall of Horticulture and a Women's Smoking Competition !

An Outspoken Protest

AT the Tobacco Fair in the Royal Horticultural Hall there has been held a women's smoking competition which continued over a week. I protest that the fountain head of British horticulture could be put to no baser use, and suggest that the body of Fellows should convey to the Council in emphatic terms the opinion that the Hall, which was built for horticulture, with hard-won horticultural money, shall not be hired out for any such depraved purpose.

There are those among the Fellows who are not in sympathy with the Hall being converted into a venue for dog and cat shows, at which neurotic women of fashion lavish more love and care on their overpampered four-legged pets than they do on their own children but we may let that pass—they are sources of useful revenue and may serve some practical end in maintaining standards of breeds.

When we reach women's smoking competitions however, I consider that we reach the rock bottom of depravity, and the managers of the Hall—which was erected to be the educational resort of horticulturists from all over the world, where they could see the finest fruits of British gardening and measure with accuracy the progress of evolution in flowers, fruits and vegetables—should not countenance it.

Our Council will say that a Tobacco Fair is, equally with a dog or a cat show, a source of revenue. Quite so, and a Tobacco Fair, purely as such, has commercial value, but its side show—in its profession that it teaches women how to smoke—is as useless as it is senseless and ridiculous, and it should lie within the powers of the Royal Horticultural Society to step in and say: This shall not be. I am no narrow-minded Purist who objects to women smoking. To my cost I am a smoker, and many of my women friends enjoy the after-food cigarette, caring not one iota whether they are smoking it correctly or not, any more than I do.

Our Council might, perhaps, have justified its action in some degree by stipulating that the competition should be judged by a member of its own body or by a member of one of its several specialist committees, since such a step would have been on all fours with asking a chef to judge vegetables. It did not do so. The Council of the greatest Horticultural Society in the world, knowing that gardeners cannot judge vegetables, ought to know also that there must be at least one member of the ancient craft who can judge a women's smoking competition, and he should have been able to do it. The cult of My Lady Nicotine would have been just as satisfied with the awards as the gardening fraternity will be when the results of its intelligent, trained labours in the production of superb vegetables are adjudicated upon by the overseer of the kitchen. HORACE J. WRIGHT.

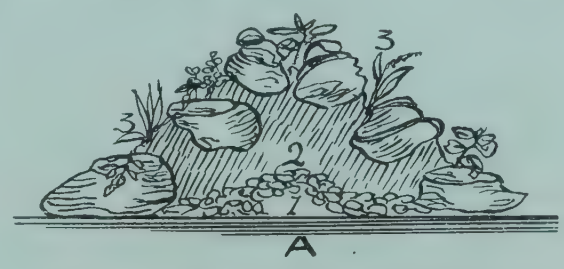
Assistant Gardeners Wanted.—Considerable progress has now been made with the formation of British war cemeteries in France and Belgium, but much work is being delayed owing to the difficulty of obtaining gardeners. Ex-Service men who are qualified gardeners or have had sufficient experience to enable them to act as assistant gardeners are, therefore, being urged to undertake the necessary work. Applications, stating qualifications, should be made in the first instance by letter to The Secretary (Appointments Branch), Imperial War Graves Commission, 1, Lake

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

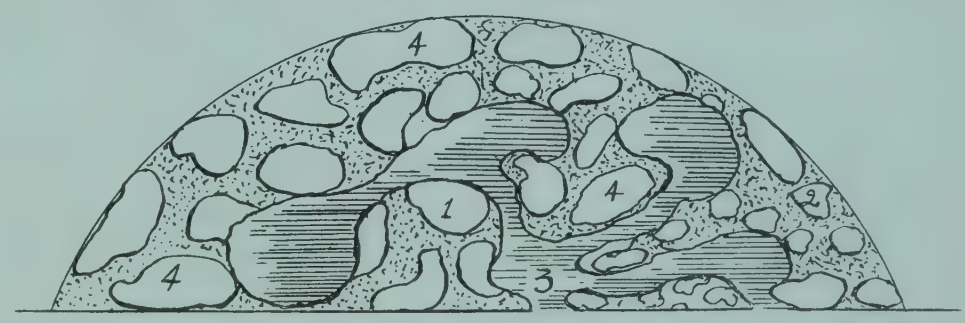
ROCK GARDEN.

HOW TO CONSTRUCT A SMALL ROCK GARDEN (Felsted).—The accompanying sketches will, no doubt, serve our correspondent as a guide in the planning of his rock garden. Fig. A.—No. 1 shows the foundation



A

FOUNDATION FOR THE SOIL.



B

A SMALL ROCK GARDEN WITH STONES SO LAID THAT THEY RETAIN RAIN WATER.

for the soil, No. 2, to rest upon. The stones must be so placed that they will collect rainwater for the benefit of the plants, and Nos. 3, 3 shows the latter having plenty of soil to grow in. Fig. B.—Nos. 1 and 2 show an arrangement for the smaller-growing alpines, No. 3 the path, and Nos. 4, 4, 4 a bolder portion of the rock garden suitable for larger-growing plants.

GENTIANS FAILING (D. C., Godalming).—There are probably, more failures and disappointments with the blue Gentians (Gentiana acaulis) than any other popular alpine. The late Mr. Reginald Farrer termed them "kittle cattle," fully realising their difficulties. During spring, their season of growth, abundant supplies of water are most essential, but the water must drain away quickly, and to permit this plenty of small pieces of rock should be mixed with the soil, which is best if of meadow loam. This rather suggests a loose rooting medium, which would be fatal to the Gentian, so, in order to prevent this, planting must be as firm as possible. During late summer and autumn by which time growth is completed and matured, so much water is not necessary—in fact, too much water at this season is harmful. But the soil should never be allowed to become quite dry; if so the Gentians would either die or at least become sickly. If the soil, as above described, is sufficiently deep the roots will be well down away from harm by the summer sun. The Gentians should be fully exposed to all the sunlight possible.

FLOWER GARDEN.

HOLLYHOCK DISEASE (Olivia).—To prevent Hollyhock disease sow clean seed from healthy plants and renew the planting yearly. Spraying is only partially successful, but a rose-red solution of potassium permanganate is the best to use. Destroy all wild Mallows from the neighbourhood of the garden, as they harbour the disease.

SCREEN FOR GARDEN (J. E. A., East Yorks).—The suggestion of a Blackberry screen would only fulfil its purpose if the rustic-pole framework or lattice work is practically a screen in itself, as after fruiting each year, the old Blackberry stems are cut out and the new growths tied in. Such a screen would certainly be profitable, and Loganberries might also be included. It could be made 8ft. or even 10ft. high. Rambler Roses, such as American Pillar, Dorothy Perkins, Sanders White and Excelsa, would be effective as a screen on the rustic

TREES AND SHRUBS.

TREATMENT OF NEWLY-PLANTED CONIFERS (A. G. V., Kidderminster).—It is certainly desirable to shorten the growths of newly-planted Thuyas and Cupressus to relieve the roots of trees 6ft. to 10ft. in height. As our correspondent's soil is of a light, sandy nature, watering twice a week during dry weather would be very helpful. Also mulch with a mixture in equal proportions of old decayed manure and rotting leaves. In the worst cases of withering foliage shorten the growths liberally, as is done with newly-planted Hollies.

GREENHOUSE.

MARKET VARIETIES OF CUCUMBER (H. W. B.).—Nearly all the large growers of Cucumbers for market have their own varieties, which are the result of years of crossing and selection. The best market varieties to be procured are Butcher's Disease Resister, Chennell's Challenger, Rochford's Telegraph, Edney's Telegraph, Rollinson's Telegraph, Rochford's Market and Lockie's Perfection. Several of these varieties are offered by Messrs. Sutton and Sons, while others are only procurable by the trade.

KITCHEN GARDEN.

RHUBARB UNSATISFACTORY (A. S., Henley).—Has the Rhubarb been moved to fresh soil lately? We find the roots are damaged, but this may possibly be due to some caterpillar, such as that of the garden swift moth. There is no fungus in or on the leaves.

MISCELLANEOUS.

PRACTICAL BOOK ON COMMERCIAL VIOLET GROWING (E. M.).—The only publication of the kind is published in New York. It is written by Dr. B. T. Galloway, and is entitled "Commercial Violet Culture." A Treatise on the Growing and Marketing of Violets for Profit." This book should exactly meet our correspondent's requirements. Other books published in England are: "A Practical Treatise on Violet Culture," by John Heath (Kendal, 1889); and "Sweet Violets and their Culture," by Richard Parker (Arundel and Horsham, 1905). A further publication that may assist our correspondent is entitled "How to Make Money Growing Violets," by George Saltford. This was published in New York in 1902.

HOW TO RID A TANK OF ALGÆ (J. A., Isleworth).—Dissolve copper sulphate at the rate of 2½ozs. for every 10,000 gallons in the tank and sprinkle over the water. This will destroy the growth mentioned. It is a green algæ. Stronger solution than this will be likely to damage both Water Lilies and fish.

WEEDS IN LAWN (J. B.).—The specimen sent for identification is the Field Wood-rush (Luzula campestris). Its prevalence is due to poorness of soil. A useful manure for present application is 1½lb. superphosphate of lime, 1lb. Peruvian guano and 2lb. of bone meal, per pole of lawn. In autumn give the grass a dressing of rich soil and basic slag or old decayed manure. The Luzula will be found to gradually disappear.

NAMES OF PLANTS.—Boris.—1, Polyanthus Hose-in-hose; 2, Scolopendrium vulgare crispum.——G., Sussex.—1, Azalea Hinodegiri; 2, Unnamed variety of Azalea amœna (purple red).——J. W. R., Wilts.—1 Cupressus sempervirens—Italian Cypress; 2 Thuya orientalis—Chinese Arbor-Vitæ.—A. R., Dorking.—1, Piptanthus nepalensis; 2, Probably Elæagnus macrophylla; 3, Akebia quinata; 4, Azara microphylla.——"Pyrus," Bath.—Pyrus purpurea (floribunda × Niedzwetzkyana).

PUBLICATIONS RECEIVED.

Journal of Genetics, April, 1921. Edited by W. Bateson, M.A., F.R.S., and R. C. Punnett, M.A., F.R.S. Published by the Cambridge University Press, Fetter Lane, London, E.C.4. Price 15s. net.

The Journal of the Kew Guild. 1921. Printed by the Brentford Printing and Publishing Company, Brentford, Middlesex.

Kew Guild.—The annual general meeting of the Kew Guild will be held at the Holborn Restaurant on Wednesday, May 25, the second day of the Chelsea Show, at 6.30 p.m. The meeting will be followed by the annual dinner at 7.30, the chairman being the president-elect, Mr. Charles Cundy

33rd SEASON.

MRS. PYM'S FAMOUS PLANTS

GOOD AND CHEAP.

Orders over 3/- post free. Under, please add 4d. to help meet high rate of postage. Half lots same rate. 12/- worth for 10/-.

Strong one year old **Alpine Pinks, Aquilegia, Brompton Stocks, Canterbury Bells, Chrysanthemum** Maximum **Coreopsis** grandiflora, **Dianthus, Chinese Pinks, Gaillardia** grandiflora, **Lupins, Sweet Williams,** 12, 1/6. **Carnations,** good border doubles, 6, 1/6.

Strong autumn-sown **Cabbage, Onions, Leeks, Pickling Cabbage,** 100 1/9, 300 4/6. Spring sown, best varieties procurable, **Broccoli** Mammoth and April Queen; **Cauliflower** Early London, Best of All and Autumn Giant; Sprouting **Broccoli, Brussels Sprouts** Kelway's Giant, Exhibition, Matchless; **Cabbage,** 5 best sorts; **Coleworts,** Curled **Kale,** Asparagus **Kale, Leeks** Prizetaker, Lyon, Champion; **Onions** Bedfordshire Champion, Giant Zittau and Rocca; **Savoy** Best of All, 100, 1/9, 300, 4/6.

Strong transplanted **Vegetable Marrows,** trailing or bush, 4, 1/4. **Cucumber** King of Ridge, Bedfordshire Prize, 4, 1/4. **Cucumber** Telegraph, Rochfords, best for house or frame, 3, 1/9. **Pumpkin** Mammoth Hundredweight, 4, 1/4. **Tomato,** large, strong, sturdy plants, soon flower, 6, 1/9. **Parsley,** 12, 1/4. **Sage, Thyme, Mint, Marjoram,** 6, 1/4. **Chives,** 20, 1/4.

Strong Climbers. **Passion Flower,** hardy, blue and white, 2, 1/4. **Canary Creeper,** graceful, quick climber, 12, 1/6. **Cobea** scandens, handsome, rapid climber, large purple flowers, 3, 1/6.

Sweet Pea plants, separate colours, 20, 1/6. Mixed, best large flowering, waved, etc., 30, 1/6. **Pea** plants, eating, best Marrowfats, 25, 1/4.

SUMMER BEDDING.

Strong transplanted plants. **Ageratum,** blue or mauve, 15, 1/6. **Antirrhinums,** lovely new colours, 12, 2/6. **Asters,** best doubles, 15, 1/6. **Asters,** single China, pink, scarlet, crimson, mauve, Apple blossom, 15, 1/6. **Balsams,** double, 12, 1/4. **Calceolarias,** 6, 1/6. **Coreopsis** Drummondii, 15, 1/6. **Chrysanthemums,** annuals, double and single, 12, 1/6. **Cornflower** Kelway's blue, 12, 1/6. **Clarkia** elegans, orange and Salmon King, 12, 1/4. **Dahlias,** double, single, Colossal, Giant Perfection, Cactus, Pæony, Collarette and Crimson Odorata, 4, 1/4. **Echeveria** glaucus rosettes red hanging flowers, 4, 1/4. **Gaillardia** Picta, 12, 1/4. **Heliotrope** regale, enormous heads of fragrant bloom, splendid bedder, 4, 1/4. **Kochia** Childsii, greatly improved summer Cypress, 8, 1/4. **Larkspur,** scarlet or blue, 12, 1/6. **Lobelia,** best dwarf, compact, dark or light blue, from cuttings, 20, 1/6.; transplanted seedlings, 50, 2/6, 100, 4/-. White **Lobelia** same price. **Marguerites** Covent Garden, white, yellow, sulphur or blue, 4, 1/4. **Mimulus,** Scarlet Musk, 6, 1/4. **Nicotina** affinis, scented white, Tobacco and crimson Sanderæ, 6, 1/4. **Nemesia** compacta and Strumosa Suttoni, 15, 1/6. **Pansies,** best large flowering and separate colours, 12, 1/6. **Pentstemon** Scarlet and large-flowering hybrids, 4, 1/4. **Petunia** grandiflora and Exhibition, beautiful colours, enormous blooms, 6, 1/4. **Phlox** Drummondi, 12, 1/4. **Salvia,** Scarlet, Pride of Zurich, 4, 1/4. **Salpiglossis,** rich colours, 12, 1/4. **Salvia** splendens and Glory, rich scarlet, 4, 1/4. **Schizanthus** Wisetonensis, 12, 1/6. **Stocks,** Ten Week, Mammoth and Beauty, 15, 1/6. **Verbenas,** Mammoth hybrids, Aricula eyed, crimson and scarlet, 15, 1/4. **Violas,** separate colours or mixed, 12, 1/6. **Zinnia** elegans very large, double, Giant Crimson and grandiflora hybrids, 12, 1/6.

STRONG, TRANSPLANTED PLANTS FOR COOL HOUSE.

Pot now for grand show this spring and summer. **Aralia,** Fig Palm, 3, 1/4. **Asparagus Fern,** trailing, 3, 1/6. **Asparagus Fern,** Plumosus, erect, 2, 1/9. **Begonias,** Salmon Queen, Rose Queen, Crimson magnifica and scarlet Prima Donna, 4, 1/4. **Begonia** Fuchsioides, coral pink, 3, 1/6. **Beauty Stocks,** lovely doubles, 6, 1/4. **Cannas,** Crozy's splendid hybrids, 4, 1/6. **Celsia** critica, mauve and yellow, 4, 1/4. **Cyclamen,** very choice strain, 3, 1/6. **Eucalyptus,** blue gum, 6, 1/4. **Heliotrope,** large fragrant, 4, 1/4. **Lobelia** cardinalis Queen Victoria, scarlet spikes, bronze foliage, 4, 1/6. **Lobelia** cardinalis, beautiful hybrids, 4, 1/4. **Nicotiana,** Tobacco, red or white, 6, 1/4. **Primula** obconica, lovely new giant hybrids, 3, 1/6. **Primula** cortusoides, rosy purple, 4, 1/4. **Primula** Kewensis, bright yellow, 4, 1/4. **Salvia** Pride of Zurich, scarlet, 4, 1/6. **Salvia** coccinea, brilliant scarlet, 4, 1/4. **Mother of Thousands,** hanging, 6, 1/4. **Schizanthus,** Wisetoniensis, 6, 1/4. **Smilax,** trailing, 4, 1/4. **Streptocarpus,** large new hybrids, 4, 1/4. **Primula** rosea, grandiflora, lovely, 1, 1/-. **Streptocarpus,** lovely Cape Primrose, many rich colours, large tubular blossoms, evergreen perennial, almost perpetual flowering, a gem for pots, 3, 1/6. **Cobea scandens,** handsome, rapid climber, large purple flowers, 3, 1/6. **Gloxinias,** started bulbs, 2, 1/4.

Chrysanthemums, strong plants for house or garden, summer, autumn or winter flowering, mixed colours, 6, 1/6.

Celery, Kelway's Giant, solid white and pink, strong, transplanted, ready for trench, 50, 2/-, 100, 3/-.

SUMMER BEDDING CATALOGUE NOW READY.

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T. B. TURNER, *Secretary.*

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Destroys Apple and Pear Sucker, Apple, Plum, Rose and other aphides, Mussel Scale larvæ, and American Blight.
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THE GARDEN

No. 2583.—Vol. LXXXV.] [May 21, 1921.

SHOWS AND HOW TO PROFIT FROM THEM

UNDOUBTEDLY the greatest annual event in the gardening world is the Spring Show of the Royal Horticultural Society at Chelsea. This great exhibition focusses the attention not only of the keen garden-lover, but of many people who at other times of the year may not be as vigorously interested in gardening matters. With a view to stimulating the interest of all our readers in this Show, whether they are able to visit it or not, we think we shall be rendering the greatest service to all concerned by publishing in this issue articles which indicate the lessons that may be learned at Chelsea, or, indeed, at any exhibition of flowers. To many visitors the Show is bewildering in its magnitude and in the multiplicity of plants to be seen. There is far too much to see in one afternoon, and visitors should not attempt to see the whole exhibition in so short a space of time.

It should be remembered that the plants seen at the Show are, in the main, specially grown and selected. By careful cultivation they are brought up to a very high state of perfection. Think of the time, trouble and expense with which the plants that appear at Chelsea have been produced. Nurserymen and seedsmen have not spared themselves. Each has given of his best in his efforts to produce something which is as near perfection as skill can make it. Both buyer and seller alike are dissatisfied if, after the visitor has been impressed and has given orders, he is subsequently disappointed because the plants are unsuccessful in his own garden, and do not, within reason, compare with what was seen at Chelsea. More likely than not the fault is the buyer's, but most people are inclined to put the blame where it should not rest. The nurseryman wants the customer to be completely satisfied, for that means a continuance of orders. If the visitor merely allows admiration of a beautiful plant at Chelsea to tempt him into ordering it without proper consideration, he is courting disaster. The conditions necessary to the welfare of the plant, such as soil and situation, should be taken into account. The visitor should ask himself if the plant he admires can be grown effectively in the surroundings which he has at command. In common fairness he should not, later on, blame the grower when the responsibility for failure should rest on his own shoulders. All this may be, and indeed is, obvious, but unfortunately it occurs far too frequently and injures buyer and seller alike. We ask salesmen to suffer a little well meant advice. Do not, in anxiety to sell, overstep the bounds of wisdom. For example, a rare plant which requires special cultivation and will not thrive equally well

A HAPPY SELECTION OF FLOWERING PLANTS.

anywhere, should not be described, as, say, "ideal in a sunny situation" at one moment to one enquirer, while a few moments later another prospective customer is informed that it is "just the plant for a shady garden."

There is no need to enlarge on the moral; we need only point out that the two enquirers may compare notes later on, and the result will be no more to the advantage of the grower than it will be to that of the purchaser should the plant fail in consequence of advice that ought not to have been given.

YUCCAS FLOURISH BEST IN RAISED BEDS. THE EFFECTIVE BORDER ILLUSTRATED IS EDGED WITH VARIEGATED MINT AND THE GREY FOLIAGE OF ARTEMISIA.

As an educational feature the rock gardens at Chelsea are worthy of careful study and emulation. Of late years more attention has been given to construction than to the plants which find a home among the rocks. Both aspects demand equal consideration. We have seen instances of gardens with rocks jutting out on grassy slopes. The effect is natural. Such a rock garden is appropriate on the outskirts of a wild or meadow garden, but it does not always afford a suitable home for alpine flowers, even though it may provide evidence of masterly grasp and carefully finished work.

Of trees and shrubs it is certain that Rhododendrons and Azaleas will be represented in great numbers, and thus will afford valuable object lessons. The Rhododendron is the most beautiful of all evergreen flowering shrubs. Although not generally credited with the virtue, it is one of the best for a town garden and will thrive in the heart of the most crowded city. But whatever the situation for which the Rhododendron is required, the visitor to Chelsea, in addition to noting the colours of the varieties, should take their height into account. There are many new species that are little more than rock shrubs and grow only a few inches high. Though valuable in some positions, they would be out of place in others.

Few garden-lovers realise so fully as they should the enormous opportunities of beautifying their gardens that are afforded by a wise selection of some of the many new and rare trees and shrubs. The varieties of flowering shrubs on view at Chelsea will be worth the closest attention. Many sermons have been preached on the "distressing results of the mixed shrubbery," but greater efforts are still needed to win garden-lovers to see better ways of planting and association, and of inducing them to discover for themselves how many trees and shrubs of rare charm there are.

There is always a great desire to see the Orchids at Chelsea. The colours of banks of Orchids on exhibition quite baffle description, and visitors crowd to see them. Those who are really keen on Orchids will spend many hours among them, but the visitor who has no interest in greenhouse plants of any description may lose time, which could be put to better use, in waiting to get a glimpse of a rare exotic that has for him no special interest. There is, as we have already pointed out, far too much to see in the time available. For this vital reason visitors should decide beforehand what they most want to see and learn and not allow themselves to be led astray by mere admiration of beautiful things even though the temptation is great.

The teaching value of a great exhibition should be sound: indeed, this is, from our point of view the chief reason for holding an exhibition at all. At the same time, a show may teach us what not to do. In our opinion one of the weakest features in some previous Chelsea Shows has been the formal gardens. Some exhibits have been overburdened with pillars, arches and pergolas. We admit the desire of the exhibitor to show examples of all he can provide, but there can be no excuse for glaring instances of badly proportioned pergolas and overdone crazy pathways. The old formal garden was very beautiful. We have observed a tendency in recent years to revert to formal gardening at the expense of the more natural style that has for so long held sway. That the formal garden of the "bedding out" style will again become popular, we do not for one moment believe, neither do we wish to see it. But where the visitor has the creation or improvement of a formal garden in view he should not overlook the importance of proportion and environment.

It is important that the visitor should be armed with notebook and pencil, especially where the colour of flowers is concerned. It is impossible to carry colours in the mind's eye accurately. Delphiniums, for instance, will be shown in great variety, and unless exact notes are taken on the spot there may be left on the mind a false impression that a certain variety is pale blue, whereas, in reality, it is lavender; or memory may say deep blue, whereas the notebook would record purple. Such confusion might end disastrously in a garden where colour effect is aimed at. It is not safe to trust one's memory in regard to colours, as so many have discovered to their cost when introducing plants for colour schemes in the flower garden.

One important lesson that shows have to teach is that some of the most beautiful effects can be produced from seed in a comparatively brief space of time. Schizanthuses, Cinerarias, Primulas, Salpiglossis and so on provide a wealth of colour. Let the visitor gaze upon these banks of beautiful flowers raised from seed, and then let him consider the possibilities of his own garden. Even at this time of the year one may scatter the seeds of annuals broadcast in the borders, and by so doing ensure a display this summer. This is a point to dwell upon, as by this means, although from one or another cause some work has been left undone, the garden need not remain unattractive, but can be made beautiful this year.

There are many other valuable lessons to be learned at Chelsea—many good things to be seen, new things in garden equipment, ingenious or useful tools—but we cannot even indicate all, and it must suffice to direct attention to them. If the visitor's eyes are open and he is ready to learn his own, and not another's lesson, he will gain much useful and satisfying knowledge. We heartily recommend every reader to visit this greatest horticultural show in the world. No garden-lover will be able to say the time has been misspent.

THE WORLD'S LARGEST HORTICULTURAL SHOW

In Past Years its Magnitude has Bewildered many Visitors. It will do so again unless Looked at Wisely.

ROSES FROM THE RIGHT STANDPOINT

THE spirit which animates the average garden owner at a flower show is much the same as that in which the gentler sex approach bargain sales. There is so much that may be purchased. The goods are temptingly arrayed. The crowded atmosphere of the show induces an excitement which dulls all sense of proportion and values. Some level-headed people who, normally, are fully aware of just what they want and, what is far more rare, why they want it, become possessed by the curious mental obfuscation which seems inseparable from the exotic atmosphere of a flower show. They are dazzled and fascinated by what they see, and buy with no thought of the morrow

They finally drag their weary limbs and minds away from the show conscious that they have ordered a number of new Roses, but just how many or what sorts or why there is no clear knowledge.

In due course the new Roses arrive, probably heralded by the bill, which travels quicker by post than do the bushes by rail. Then arises the inevitable question: Now I have these new Roses, what am I to do with them? Places are found for them and there they are, for good or ill, planted; but not because these particular Roses are really required there.

Lucky Accidents.—If it should happen that the enforced choice of place is successful, well and good, though it is no real credit to the owner, but rather in the nature of a "lucky accident." I am acquainted with a few gardens that are built up on lucky accidents, and have seen more which possess attractive features which also are undoubtedly lucky accidents. But such success cannot be the source of lasting pleasure to the owners of these gardens, who must, and I believe do, realise that they do not deserve this good fortune. No matter what one's sentiments in this matter may be, it is most unwise to bank on lucky accidents and trust that, somehow, all will be well in the garden. The really satisfying garden is the result of studied plans—not necessarily scale plans, all set out with mathematical exactitude, but a definite knowledge of just what one wants and being content with none other.

This is the spirit in which one should go to Chelsea. One should go well aware of what one particularly wants to see and, if possible, spend most of the available time inspecting these features. A good general view of the Show can afterwards be made with enjoyment, all the greater because of the knowledge that the prime object of the visit has been attained. Then, instead of taking away a jumble of floral impressions, more fatiguing even than an Academy neckache, the visitor will depart fresh and full of that contentment which

ANYTHING BUT A LUCKY ACCIDENT.

It is obvious that the planning of this garden received careful consideration.

follows the successful accomplishment of a self-set task.

The Better Way.—Though perhaps not obvious, the attainment of this is really easy. One's Rose desire at the moment is, say, the selection of a comparatively new variety of Rose to plant a moderate-sized bed in a fairly prominent position in the garden and, as colour effect is needed, it is decided to fill the bed with one variety only. This Rose will certainly be discovered in one of the large stands of decorative sorts somewhere about midway along the exhibit. The smaller vases and the boxes of exhibition blooms at the front will be, for the time at any rate, ignored, because size and absolute perfection of form are not the principal qualities one seeks. Our ideal Rose for this purpose must be as perpetual in character as possible, so that the pleasure of the bed may be enjoyed over a maximum period, and for this one searches the Hybrid Tea varieties. The particular shade of colour is already decided, so one must look for such points as dark green, leathery foliage (which resists diseases far better than soft green leaves), robust habit and a sufficiently full bloom. The last point is rather important, as it ensures lasting qualities in the flowers—the loosely made bloom, though delightful to look at when just at its best, is all too quickly over.

These same exhibits will provide excellent opportunities of selecting sorts for planting a new Rose garden proper, where Roses and Roses only, or at any rate associated only with low, carpeting plants, are to be considered The generous masses of the decorative Hybrid Teas give splendid opportunities of studying colour values and grouping, and it is quite reasonable to assume that any sort which is displayed in quantity blooms freely. It is also among the massed blooms that will be discovered just the right half-dozen sorts for planting in the shrubbery—a delightful place for growing quite a number of Roses which has not been explored by many gardeners. For this purpose the shapely bloom is not at all the desideratum. It is rather vigorous habit and decided shades of colour that will be sought.

For the best varieties to plant the pergola or the more humble Rose arch which leads to another part of the garden it is to the groups of Polyantha Roses at the Embankment end of Chelsea grounds that one goes. There in the open air and, one hopes, in sunshine, a leisurely choice may be made. There are other directions in which the visitor should look, but he should do so with a clear eye on the point at which he is aiming. In doing this there is little likelihood of mistake.

Then, after noting the names of the Roses that appeal most, it is always wise to ask the opinion of the man in charge of the exhibit before making a final decision. These men know Roses, and while they are always ready and willing to book orders for the newest new Rose at new Rose prices, they would rather sell you the most suitable varieties for your immediate purpose and in so doing know that they have secured a satisfied customer who will be a regular buyer.

THE ROCK GARDEN AND ITS POSSIBILITIES

IT is not merely because discomfort, inseparable from heated tents, sends the visitor at Chelsea into the open air occasionally that the rock garden exhibits attract as much, if not more, attention than any other feature of the great show. In themselves they represent the real thing as stand exhibits cannot do, and they stimulate desire. Wonder and admiration are provoked by imagination of the quickness with which these attractive representations of the garden have been improvised at Chelsea in positions which a few weeks, perhaps bare days, before were trod by the old pensioners of the Royal Hospital. One incidental lesson which may be learned is that where speed is necessary, though it is not desirable, it is possible to make a rock garden in almost any desired position with very little time at disposal. But this is the least useful purpose of the exhibits. In the following article an effort has been made to set forth other purposes that may be served.

It has been most truly said that not many years ago it was exceptional to find a rock garden worthy of the name in any but the largest of our private gardens. To-day, however, a garden of any appreciable dimensions is not considered complete unless it contains at least a portion devoted to the cultivation of alpines. In other words, we are all rock gardeners nowadays, and the Chelsea Show affords us the greatest possible encouragement in perfecting our knowledge and art.

Judging from the results, the exhibitors themselves often approach the construction of such gardens from different standpoints. Some, who are out for business in the sale of plants, subordinate picturesque arrangement to a lavish display of well grown alpines. Others, with an eye solely for the pictures presented on many a moorland and hillside, concentrate their attention on an exact and faithful reproduction of one such picture, leaving the planting to the imagination. Such an effort is highly commendable from the point of view of the artist who does not desire a *garden*. Before such efforts one pauses in wonder at the intimate and sympathetic feeling the designer has for the beautiful in Nature. But it is not gardening any more than a well painted picture of a rock and water scene is a garden picture. It is just copying, or perhaps idealising Nature in one of her more beautiful aspects. The lessons suggested by the two types we have described are, from the first, that the rock and the picturesque effects it can be made to produce is to the plantsman pure and simple of negligible importance; from the second, that if one desires Nature simple and unadorned, it is better to leave it to Nature to achieve her own effects and enjoy them *in situ*.

BOLD EFFECTS ARE BEST OBTAINED BY THE USE OF RUGGED STONE.

The third example is the one that unites with the aim of presenting the charms of a little bit of hillside or moorland scenery the interest of suitable vegetation growing as nearly as possible under natural conditions but used with a due sense of restraint. In such efforts the rock, water and plants form a triple alliance that unite in a general harmony of purpose to please by its general effect, and interest by its development of detail.

First the picture as a whole. Every rock garden has one, or at most two, main points of approach. From a given point a well defined, carefully conceived view should be presented in such a way that it will create a thrill of sensuous satisfaction. The eye will take in nothing very definite in this first glimpse, and the sensation will be rather one of *feeling* that here is a picture than of *seeing* it. In perspective drawing we should call this the "view point," and in designing the picture one goes to work in exactly the same way as in selecting a subject for painting. The method is to select the scene, emphasise the salient points and idealise the whole. Soften down a little harshness here, tone down a little crudity of colour there, bring out strongly striking features and suggest lightly the minor details. Just so one constructs the rock and water garden picture. If it is a large one, it may contain a dozen such pictures; a small one may permit of only one

but they will each be subject to one single line of development. In each there must be one dominating feature, reproduced as naturally as possible, in which the picture centralises. It may be a water-worn face of rock whose mossy fretted surface is covered with Ferns, and from which oozes water escaping from the crevices and forming still, shadowy pools at its base. It may be that through a softer strata the water has in the course of ages worn a cave-like hollow and in its bottom a basin. In its damp crannies Mosses and Ferns have found a home, and the water splashes from above into a natural basin of its own creation. From ledge to ledge it tumbles until it reaches the meadow slopes below, and then winds its way through green banks besprinkled with dainty moisture-loving plants. Along its course occur at intervals irregular masses of rock, some of which thrust themselves across its way only to impede its progress for a moment by holding up a widening pool, for eventually the water finds a crevice or hollow and escapes and so goes on its way.

Another pretty effect is obtained by the water finding its way from the upper levels of a rock ledge and trickling or gushing, according to its volume, down the rock face.

With either of these as the main *motif* of the rock garden scheme the general disposition of the remainder must be such that all the lines are in harmony and look as if they formed part of one concerted whole.

So much for the general effect, and now for the method of achieving it. Obviously the material will play a very important part. The stone used can make or mar the picture. The best is old, weatherworn, from which crudity of outline has disappeared by the action of thousands of years of exposure to the elements. Colour is purely a matter of taste. Broadly speaking, limestones are the most satisfactory because so many alpine plants love them. Equally picturesque effects can be obtained with some sandstones, however. Grey limestone is the easiest to use, principally because its colour hurts nothing. By itself the effect is cold and hard, and it only gives its best when lit by flowery colour and softened by vegetation. Whatever the stone used, it should be placed as nearly as possible in the same relation, piece to piece, that Nature has used it. Concerning design, if success is only reached by imitating Nature, obviously in an effort to reproduce an effect that is to be found in the stone that is being used design is inclined to look after itself. Broadly speaking, the successful design may be summarised under six points: 1. The picture presented in the approach must be good. 2. Access must be given by paths and steps to all important features. 3. Paths that lead nowhere and steps ascending to nothing should not be introduced in the rock garden at home. At a show they sometimes appear as a suggestive bit of constructional work. 4. Whenever possible water should be introduced into the scheme for the sake of the life it gives and the chance it offers of adding immeasurably to the beauty of the whole as well as widening the range of vegetation that can be cultivated. The water area should be strictly in proportion to the remainder of the design. It must not be so small as to look insignificant nor so large as to create an effect of much water and some rock. 5. The water should be crossed at one point (or more) so that the most pleasing of all views, that looking up or down stream, is not lost; but such crossings should be the natural connection of two paths. 6. The planting areas should be arranged suitably for the class of plant to grow therein, or, where the demands of general effect imposes restrictions in this respect, as it will in some few areas, the plant life introduced should be such as will thrive under the conditions that are possible.

The rocks and water do not alone constitute the picture. As a matter of fact, they are but its outline together with some measure of its light and shade. They form the body, beautiful, it is true, but lacking the spirit of life that the plants alone can give, or, in other words, the rock garden before planting can be a beautiful monotone, which, planted, becomes a delightful study in colour.

COLOUR AND OUTLINE OF STONE MAY MAKE OR MAR. WITHOUT THEM EVEN THE BEST CHOICE OF PLANTS DOES NOT PRODUCE A PLEASING PICTURE.

The plants are of at least *equal* importance to the construction, because it is they that make it the *garden*. Nevertheless, it should not be allowed to become merely a botanical collection by the indiscriminate crowding of innumerable subjects. Having carefully completed the *drawing* of the picture by the constructional work, lay on the colour of planting with a careful hand so that each assists and unites with the other. Common and rampant plants should be used only in the least important and more spacious areas. Choice and particularly beautiful specimens, whether rare or otherwise, should be brought near the oft-trodden path so that they do not escape notice. Alpine and rock shrubs judiciously used are an imperative necessity, should be used freely, but with a due sense of proportion. Alpine plants that love the higher and drier conditions should not be planted near the water, or at least not in moist places. A ledge of rock overhanging the water may sometimes be as dry as one far removed from it. Such plants as demand moist conditions should only be planted where they will get them. Variety is desirable, but not at the expense of picturesque effect. One broad sheet of Lithospermum may be worth twenty odd and various specimens dotted about in the space it would occupy and looking less happy than a mixed crowd at a race meeting in a thunderstorm where all the favourites have "gone down." If space is limited, the best plants only should be used, not necessarily the most rare, but always the most beautiful. If the area for planting is large, plant freely of everything, but always with discrimination. Proportion is the keynote of success.

These, then, are the points to note in the rock garden, and which are exemplified in the best exhibits as far as the artificial restrictions will permit. Its faithfulness as an interpretation of a selected fragment of Nature's own beautiful production. The absence of a sense of newness and artificiality in its construction. The suitability of the design to garden conditions, and the skill and restraint with which the plants are chosen and used.

At shows perfection is unattainable owing to the conditions under which they are held. The effects produced are invariably seen in a false light. The ever-moving crowds, lack of the essential seclusion and repose, often, too, lack of suitable background, detracts from the best conceived and most skilfully executed picture. Moreover, so long as the only recompense the exhibitor can gain towards repaying his expenses is an academic award of no intrinsic value, there must inevitably be the temptation to use such an exhibit as a convenient method of displaying plants that sell. For this reason the lessons to be learnt at the Chelsea Show regarding construction are often more valuable than those regarding planting the rock garden

BORDER FLOWERS AND THEIR COLOUR HARMONIES

Opportunities Present Themselves in every Garden for Arranging Plants in Beautiful Colour Effects that give Delight to all who see them. There is no Mystery and no Particular Difficulty in the Art, which needs but Careful Forethought to Ensure Success.

A FAMOUS EXAMPLE OF PRACTICE EQUALLING PRECEPT.

[To-day almost every garden-lover is a "colour-schemer"—odious word. Useful and enduring lessons may be learned at the Chelsea (and, indeed, at any other) Show if the discerning gardener will but make notes of the flowers which in his or her opinion blend—and clash! No two minds think alike in this respect, but there is one mind above all others that has revolutionised the garish notions of former years, and that mind is Miss Jekyll's. Her plans and ideas have led to a new understanding and appreciation of colour-masses, so arranged as to produce pictorial effect, rather by well arranged harmonies than by violent contrasts. The following article from Miss Jekyll's pen will, we hope, assist our readers in taking full advantage of the Show in relation to any colour-plan they may have in mind.—ED.]

WE have one of the great shows near at hand; for those who care for good colour arrangement it will be an opportunity for observing good things of fine colouring and for noting, then and there, how they may best be used to the bettering of the garden. Those who have already given some attention to the working out of good colour harmonies in the garden will never abandon this, one of the most copious sources of enjoyment and interest among the flowers. For to such persons it is not enough to have good flowers in plenty, even though this may be a joy to the many, but their better and more thoughtful use brings a deeper and wider means of enjoyment, for it carries with it something of the artist's joy of creation. A mere collection of the finest plants is like having a box of the best paints. If they are put out without thought or consideration of arrangement they are like the dabs of paint on the artist's palette—nothing more, though each plant or each lump of paint may have its own beauty as an individual. But to those of us who may wish to carry our gardening a step further, who desire to convert the dabs of paint into a picture, a careful study of the value of colour harmonies may be earnestly recommended. And the doing of it intelligently is, after all, only perceiving and taking advantage of natural laws. It will be found that harmony of colour enhances glorious effect, whereas discord or opposition only make something jangling or chaotic. Let anyone try, in a large flower border where both hardy and summer flowers are used, such a combination as dark claret and blood red Hollyhocks, with some of the best of the old decorative Dahlias of rich reds, with a more subdued interplanting of Atriplex hortensis or Ricinus Gibsoni, and let the nearer planes of the border have Gladiolus Brenchleyensis, scarlet Phloxes, Lychnis chalcedonica, Lobelia cardinalis and scarlet Pentstemons, with Snapdragon, dark red with dark foliage, and a groundwork of Iresine, and see the rich glory of the effect.

It is only indoors and at quite short range or in quite restricted spaces that it is well to use colour in contrasts. I have on my table, within hand-reach, a bowl of Myosotis dissitiflora and yellow Alyssum; seen close like this each colour intensifies the other, but if these two plants were placed alternately in a bed out of doors and seen from a distance, the effect would be but poor. Even at the length of a room a bowl of Nasturtiums of harmonising tints of deep yellow and orange would be better.

Summer Flowers Carefully Arranged.—It has been one of the pleasant tasks of the garden to

provide for the use of the summer flowers—the tender things that were formerly called bedding plants. A space of ground of triangular shape, with a boundary of high wall on one side and of low walls on the other, is devoted to these plants. As the wide end of the triangle would have been too broad a space for good effect and convenient working, a sort of raised backbone was put up, consisting of a double low dry walling filled in with good garden soil. At the end where the triangle contracts, the dry walling swings in to the path on both sides, so that the whole of the small end is of raised borders. These ends and the axial backbone are planted with Yuccas, Crinums and Phormiums that stand well up and, with their more solid aspect, make a good background to the softer plants. These are grouped in good harmonies of colour. In the immediate foreground there is a wide drift of the pretty yellowish white Gladiolus Lily Lehmann, with yellow and white Snapdragons, pale yellow Cannas and variegated Maize. All this patch of white and yellow is bordered by a favourite mixture of the useful old variegated Mint (Mentha rotundifolia), the pure lemon yellow Calceolaria amplexicaulis and the golden foliage of Pyrethrum Golden Feather. These are informally mixed; the Mint, which would have grown too tall, has been several times pinched, and the bloom of the Calceolaria is led up into it so as best to show its bright pale yellow colouring.

Towards the further corner, nearer the arch, the colour changes, passing through palest pink of Geranium, Gladiolus, Pentstemon and Snapdragon to soft reds. Further round the colour deepens to fullest reds, with ruddy-leaved red Cannas, scarlet Lobelia, Geranium, Pentstemon and dwarf Dahlias, with accompanying foliage of deep red Ricinus and Iresine, the same kind of colouring with different plant arrangement being here on both sides of the path. Further on again the colouring comes back to the tender pinks, leading to yellows and whites, the whole distance at the narrow end of the triangle being a good mass of Yuccas, with a groundwork of Heliotrope, Ageratum, and an interplanting of pale pink Ivy-leaved Geranium and Sweet Alyssum. A flowering mass of Solanum jasminoides is seen to advantage against the weather-boarding of a barn, and the back of a double border of grey, purple, pink and white colouring. Here there are pink Hollyhocks, with large groups of Echinops, and Clematis Jackmannii trained over on stout Pea-sticks, Gypsophila, Lavender, the purple Delphinium Consolida, Ageratum, light and dark purple China Asters, with pink and purple Gladiolus and white Snapdragons and Pentstemons, the whole being intergrouped with the grey foliage of Artemisia Ludoviciana and A. Stelleriana.

A Border of Lupine and Iris.—The middle days of June bring the perfect bloom of the Flag Irises and the perennial Lupines. Where a space can be given to these and a few other kinds of flowers of the season a complete picture of flower beauty may be had. The border, part of which is illustrated in colours in this issue is on two sides of a narrow path. It is backed on the right by a hedge of flowering shrubs, and on the left and at the end by a hedge of Yew. It is carefully arranged for colour. On the left it begins with a bold patch of Anchusa Opal, with the white bloom masses of Olearia Gunnii at the foot. These are followed by blue and white Lupines in separate patches; then pink China Roses, blue, purple and white Irises, and masses of blue Crane's-bill and Catmint, with white Pinks and Pansies to the front. Next come tall pale yellow Irises to the middle and back, grouped with Lupine Somerset and Golden Privet, a capital thing for clever use in this way. The colouring then passes by deeper yellows to some of the Irises of the squalens section of rich red purples, with red purple Lupines, a harmonious quality of colour being provided towards the front by a grouping of Incarvillea Delavayi, with a setting of the deep reddish-leaved Heuchera Richardsoni. By now the end of the border is reached, and there is a group of white Tree Lupine with tall spires of Asphodel and pink China Roses. At the beginning of the return border on the right is the fine pink Iris pallida Queen of the May, with white and rosy perennial Lupine and a front planting of pink Pinks, and so on again through pale yellows to clear lilacs and purples, pinks and whites.

Trees and Shrubs for all Purposes

Advice, which will be Helpful Alike to Those who Visit Chelsea and Those who are Prevented from Going, is Given in the Following Article.

WHATEVER the soil may be our gardens may be made attractive the whole year round by selecting the right kinds of shrubs. There are certain shrubs, like the Rock Roses, Brooms, including the Spanish Broom, that flourish in the poorest of stony soils. A peat soil is not essential for Rhododendrons; they thrive in any soil so long as it does not contain lime. There are beautiful climbers, like Clematis and Wistaria, for clothing walls, arches and pergolas others like the Hydrangea, Sweet Bay and Lemon-Scented Verbena suitable for growing in tubs for terrace or formal garden. Again, there are low

RHODODENDRONS IN A WELL CHOSEN SITUATION.
The glory of the masses of bloom is enhanced by the great Cedar in the background

growing shrubs like Cistuses suitable for overhanging rocks or growing by the side of stone steps. Trees and shrubs for all purposes can be selected from those at Chelsea. The trees for park, woodland and specimen planting will, of necessity, be young examples, but fully large enough to judge of their habit and future requirements.

It is always Azalea and Rhododendron time at Chelsea. No matter how few may be the exhibits of Clematis or Roses and other shrubs, one can always feel confident that at the Chelsea Show there will be glowing masses of Azalea Mollis of the latest and most gorgeous colours; that the fragrant Ghent varieties in fiery orange and delicate shades of pink and yellow will be present in quantity to delight the eye and refresh the mind. Then, in addition, there will be the newer hybrids between these two types—hybrids which seem to have taken some of the size of bloom from one and blended it to vigour of growth and grace of spray of the other.

At the shows such brilliantly coloured shrubs are, as one may say, self-supporting in their effects; but in the garden and woodland what help one can give them and how wonderfully beautiful are the effects that can be made by proper associations! The Azalea garden at Kew, where the bushes are set in ample green sward and surrounded by soft-foliaged trees, artists go to paint and remain to silently sit and admire, so entrancing is their loveliness.

For such planting one could purchase any of the varieties or even seedlings and not go wrong, for they all harmonise in such surroundings. For woodland planting discrimination is needed. A small group composed of the shades of one colour is wondrously captivating on the borders of a thin, old Beech wood. At the end of a vista several plants of a vivid colour are needed, while if they will be seen suddenly and at moderately close range one's choice would fall on the softer pinks or the satisfying buff-orange shades.

The rarer Azalea Kæmpferi varieties will be seen in increased numbers at this year's Show. This species is best known to garden lovers in the form of ages-old, stunted Japanese specimens. Who can say what its colour should be, except that it should be rosy of some hue or in combination with purple, set off by yellow anthers. New varieties in shades of crimson, soft terra-cotta and yellow will no doubt be shown next week, and these are particularly suited, by their dwarf, alpine-like habit, for planting in the rock garden, as well as in small beds with other low-growing shrubs. Besides its great value in outdoor schemes, it is an excellent cool greenhouse plant and forces moderately well.

The Lilac season is drawing to a close, but there will be sufficient of the relatively new later-flowering sorts for those who—and who does not?—wish to prolong the season of this most fragrant shrub. These will mostly be double-flowered sorts which are so handsome, though they somewhat lack the delicious perfume of the, to us, 300 years old common Lilac, Syringa vulgaris, which always blooms well if properly treated. When buying named varieties one should insist on having them on their own roots and steadfastly refuse grafted or budded plants which always disappoint.

It is really time that some enterprising nurseryman brought his Clematis trained more naturally than the balloon shapes one associates with this flower at Chelsea. Then we could judge better of its habit and vigour and also its suitability for any special purpose in mind.

While we hardly expect to again see such a number of old Wistarias growing in the native tubs as were at the International Exhibition in 1912 and which possessed colours not before seen in this country, yet this most wonderful of all hardy climbers is sure to be there to remind us of its value, lest, seeking after newer plants, we overlook it.

One of the best shrub features of Chelsea is always the wonderful Japanese Maples, and nowhere else can they be studied so readily. Sometimes one feels rather at a loss with them unless one's purse and garden permit of a collection; but for a low garden vase at the end of the terrace or any place where flowers are scarcely needed the brilliantly coloured forms are particularly valuable. Another most appropriate place is in a shrubbery bed where the ordinary flowering shrubs are excluded. This can be made most uncommonly attractive.

Chief among the many shrubs suitable for covering walls and fences will be found the Ceanothus. The one we know best is, of course, C. Veitchianus, which almost gives the rich blue colour of C. rigidus in longer and more abundant racemes of misty, billowy flowers. In most gardens this must be grown as a wall plant, but for the open ground in the Midlands and Southern Counties there is C. thyrsiflorus of freer growth, which makes grand bushes up to 15ft., and more in favoured places, in height.

FRUIT CULTURE—PRESENT NEGLECT PREVENTS FUTURE SUCCESS

To Encourage Fruit Trees to give us of Their Best, we must give them of Our Best—In Other Words, Feed that You may be Fed.

A SHORT time back there appeared a note in THE GARDEN urging gardeners to give water generously and then to give more water, the latter with a view, doubtless, to getting on the right side of the fence. The writer pressed the point of upgrade activity in plant life and declared that only large quantities of water could meet the instant, essential demand. The reasons given were sound, and it is hoped that the advice was widely accepted.

It is not purposed to traverse gardening broadly in these remarks, but to restrict consideration to one section alone—the fruits. It is a part of the ordinary routine to apply mulchings of natural manure to trees and bushes late in the autumn or early in the winter, in one part because other tasks do not press so heavily on available labour, and in another part because a time can usually be chosen when the surface is so hard that locomotion is facilitated. It is assumed that the late winter and spring rains will carry the food elements from the manure into the earth to the ultimate benefit of the trees. It is thought, too, that the soil is kept warmer by the covering, but this very easily may not be the fact. If the material is not stirred occasionally the rains may beat it down until it is impenetrable by water and air and the invariable result of such stoppage is to make the soil colder.

Nevertheless, autumn or winter mulching is a step in the right direction. It is, however, imperative that the grower shall be alive to securing the utmost advantage from it to his trees. Here will come the immense good of the copious waterings so ably advocated by the contributor previously alluded to. That is a work for the late winter and spring when we experience such a season as the present one (my garden is short 3.49ins. of rain in comparison with the fall in the four months to the end of April last year; 6.73ins. short compared with 1919; and 2.52ins. short compared with 1918), and where it was carried out with proper thoroughness the plants are now deriving great benefits.

Healthy trees and bushes draw from the earth enormous quantities of moisture, and to meet their requirements it is necessary to advance beyond autumn or winter mulching and spring watering. Following the development of the blossoms and leaves there must come the swelling of the fruits, and it is during the course of this process that the trees call for the most direct assistance. In a dry, or comparatively dry, season it is impossible for too much water to be given between the middle of May and the middle of June. Raspberries and Strawberries which are literally flooded then will produce much larger and more luscious fruits than will those about whose roots the soil has been allowed to become dry, though it is freely admitted that there must come sun afterwards to put the finish and flavour. And it is the same with other kinds.

Accepting it as a fact that the moisture and the food in its elemental state are present in the soil at the end of May we are face to face with the problem as to how they shall be preserved to the benefit of immediate and succeeding crops. The one thing requisite is a heavy mulching of short manure. This will do three different things—prevent the waste of food-carrying moisture by capillary attraction; keep the surface of the ground so pleasantly cool and moist by breaking the rays of the sun that the most active of the root-feeders will rise to the congenial stratum, and convey food at a stage when it is particularly wanted for the swelling crops. It is, indeed, impossible to over-estimate the value of an early summer mulching of the nature indicated in the maintenance of an equitable balance between that which the trees draw from mother earth and that which the grower puts in as compensation.

Associated intimately with the inevitable exhaustion of the energies of the plant by its present burden and the conservation of sufficient capacity to build up buds which will produce the crop of next year is the number of individual fruits that a tree is permitted to carry to ripening. Too frequently it is ignored that it is the seeds, not the flesh, in which these are embedded, which make the first and most persistent demand for suitable sustenance. The grower who encourages his mind to become imbued with the primary natural law governing the perpetuation of species realises quickly that if the present crop is to come to perfection as human food there must not be too many seeds calling and continuing to call for the support which will perfect them. He must draw upon his intelligence to decide how many seeds each tree can finish while reserving enough inherent power to add the essential flesh to those retained and to produce the imperative buds for the burden to follow. Thinning fruit, as carried out with sound judgment in accordance with the age and strength of the plant and the availability of suitable nutrient matter in the soil is one of the most important points directed towards the end that the trees shall give us of their best in response to the best which we have given them—in other words, that they feed us in proportion to the food with which we have fed them.

Ampthill. W. H. LODGE.

WATCH AND SPRAY!

The Wise Man will Spray Now and not Wait until the Damage is Made Evident.

WE had a mild winter, and sufficiently warm weather in February and March to foster early growth of all outdoor vegetation. Then came a snap of cold, wintry weather during the latter part of April, with cold nights right through the first part of May, giving young growths a check that made them ready prey to the awakening hordes of insects that the mild winter had allowed to hibernate unharmed. The natural consequence is that the need for spraying is even greater than after a normally severe winter and a late spring.

Roses are already attacked by green fly, and delay in dealing with it will lead to vexatious damage to the finest growths of the season. One frequently hears the remark made that it is a mystery where green fly comes from, and the solution of the mystery is that the first batch of the season hatches out from eggs laid on the stems and shoots by the latest batch of the previous autumn. Throughout the spring, summer and autumn, green fly are viviparous, the young being born alive, but in autumn again the latest generation deposits eggs destined to perpetuate the species. With these facts in mind it will become apparent that the most important seasons for spraying are spring, when the first batch appears, and in autumn, when the last batch will be about to deposit their eggs. If these two seasons are neglected the rosarian will be pestered throughout the season and many blooms will have to be stained and spoilt by insecticides or will be ruined by the fly.

Preparations for killing green fly are so readily obtainable that one really has no need to trouble to make them at home. Soft soap, quassia and paraffin play a principal part in most of the proprietary aphicides, but I am a strong believer in adding a little nicotine to the emulsions. Even half a teaspoonful of nicotine vaporising liquid added to a gallon of the wash will add wonderfully to its effectiveness.

Two things are very essential to success : first that the spraying shall be done on a still day, when there is no likelihood of immediate rain, and secondly that the fluid shall be applied in the form of a fine, mist-like spray. If there are a considerable number of bushes to spray, a good machine is required, but for a half dozen or a dozen bushes a syringe is ample, provided it is fitted with a spray-nozzle, and not with an ordinary perforated cap or "rose."

Had we no more difficult pests to combat than ordinary green fly, there would be but little writing to do under the title of spraying, but we shall have not only caterpillars, frog flies, weevils, and other sucking and gnawing insects to grapple with, but are bound also to have some sort of fungoid diseases.

The sprays which kill green fly will also kill various other surface feeding creatures, but considerable difficulty attends the warfare against such mites and grubs as work their mischief in the interior organism of the plants they live upon.

The Rose-boring saw fly (Pœcilosoma candidatum) cannot be detected until it has eaten away the pith in a young shoot, causing it to wither and die. The wise grower will take preventive measures rather than wait until damage is made evident. The best preventive is to spray the trees with a preparation that will coat the whole surface of the undeveloped buds and shoots with a film of some mixture that will be nauseous to the saw fly when she comes along to pierce the epidermis or outer skin of the young shoots to lay her egg. A wash made by mixing two pounds of Hellebore powder in nine gallons of water, with a little Gishurst Compound added to make the solution slightly sticky, will serve the purpose, and this wash may be used also on Gooseberry and Currant bushes, but not within a month of gathering the fruit, because Hellebore powder is poisonous.

The leaf mining maggot which disfigures the foliage of Marguerites and Chrysanthemums, is another pest that must be checked before it obtains access to the tissues of the leaf, where it will be out of reach of any insecticide.

The same may be said of the Celery fly maggot, which, although a different species, is akin in its life history and habits. A very simple remedy, or more correctly, preventive, and one that is very effective if given a proper chance, is dilute coal tar spray. This is made in the following manner : A pound of tar is boiled in a gallon of water for twenty minutes. During the boiling the scum that rises to the surface is removed, and the liquor, when cool, is strained into an earthenware pan or jar. This solution may be used at a strength of one part in fifty of soft water. At this strength no harm will be done to even young foliage, but by spraying two or three times between May and July the fly will be prevented from depositing its eggs.

Tomato growers and growers of many flowering plants, such as Salvias, Fuchsias and Coleus, are terribly troubled with white fly. Fumigating with nicotine and spraying with nicotine wash are the remedies that have persistently been recommended, but while many may be killed by either means, the successive generations are so quickly born, and the species multiplies at such a marvellous rate that their numbers are only reduced for a very few days at a time.

Fumigation with nicotine is expensive, and can only be well done on still evenings when there is no wind. Thus the fly gets time for re-establishment between the successive fumigations.

With such a pest to deal with the advent of a new preparation is to be welcomed and given a thorough trial, and any success achieved should be given publicity. This season a new insecticide has put in an appearance under the name of Kilzall Liquid Insecticide, and it certainly has power to kill white fly. It does not destroy the eggs, but as it does not harm foliage and can be sprayed in greenhouses at any time, and outdoors whenever fine and still, there is every possibility that by perseverence and watchfulness for two or three weeks one may entirely rout the enemy. The fruit grower has his own particular needs for summer spraying. It would be impossible to deal with the whole season's work in one article, but it is well to mention a few particulars regarding the pests to watch for and sprays to use during May and June.

Arsenate of lead will be called into service for dealing with the caterpillars of the eyed hawk moth, the vapourer moth, clouded drab moth, and the green and brown leaf weevils, all of which infest Apple trees and other fruits. The currant saw fly requires the same attention, taking care that the undersides of the leaves get the spray. Raspberries and Loganberries should also be sprayed lest they be damaged by the chafers, weevils and Raspberry beetle.

As a summer fungicide a good lime-sulphur spray is very reliable, the various mildews, rusts, leaf-spot, Apple and Pear scab being effectively checked if not absolutely destroyed by timely application of a well balanced fluid.

It must always be borne in mind that spraying only half done is an utter waste of time and material. It is not work that admits of hurry or carelessness, but, with a good sprayer kept in thorough working order, carefully prepared fluids and workmanship that ensures the whole surface of foliage above and underneath being coated with finest possible spray, the work will be well repaid. A. J. MACSELF.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Spring Bedding Plants will need removal as they pass out of flower, and the ground must be prepared for the summer occupants. It is necessary, under certain conditions, to replant at once, but where it can be arranged it is a great advantage to clear the spring material away and throw up the soil somewhat roughly for a few days so that the remaining roots of the late plants may perish, and the soil become sweetened and aerated before it is again occupied. When removing Tulips and Hyacinths which have not completed their growth, they should be carefully laid in trenches until this is completed, afterwards thoroughly drying them by lifting and laying out singly in a well ventilated shed or storehouse. Polyanthus should be planted out in separate colours in the reserve garden, at the same time dividing any which call for it, and, beyond hoeing occasionally to keep weeds under, they require but little attention until needed once again for the embellishment of the spring beds.

Cannas.—These handsome tropical plants may be put out as soon after the middle of the month as convenient. A warm soil and somewhat sheltered situation is necessary for their full development, and a large bed well placed gives fine effect. Near a sheltered dell they associate well with the strong growing Tobacco plant (Nicotiana sylvestris), the scent of the latter, towards evening, adding greatly to the interest. As dot plants to relieve the flatness of a bedding arrangement they are also worthy of note.

Biennials such as Wallflowers, Canterbury Bells and Myosotis should now be sown in drills in the open ; pricking out when plants are large enough to handle.

The Kitchen Garden.

Cucumbers.—Where frame culture is practised the plants should be placed in position as soon as convenient, if possible making up a bed of straw manure and leaves to give the plants a good start off. This is, however, not strictly essential and good results can be obtained by adding some suitable compost to the frames where early vegetables have been grown, and planting at once. Cucumbers revel in heat and moisture, so utmost use should be made of sun heat by early closing of the lights and endeavour at all times to keep the roots uniformly moist. The frames should be covered over on all cold nights. Where small Cucumbers are appreciated for pickling, a ridge variety is very suitable and may be grown outside upon a bed of leaves which have been thrown together for decomposition.

Seed Sowing.—In making another sowing of Peas it is an advantage on light soils to sow in shallow trenches so that watering and mulching at a later date will give more beneficial results. Where Broad Beans have to be produced late in the season, the spot chosen should be a cool one, and the soil of good depth and strength. Make another sowing of Turnip and Spinach, if necessary, and as soon as the former is through the soil, dust over with soot or wood ash to keep the fly at bay.

The Hardy Fruit Garden.

Strawberry plants, which have fruited in pots, will give good results next season if planted out on a well prepared piece of ground. The old ball of soil should be carefully reduced with the aid of a pointed stick, previous to which the plants should have received sufficient water to penetrate through the ball of soil. Plant firmly and spray and water until the plants are re-established. If attention cannot be given the plants it is better to postpone planting until early August, meanwhile allowing the plants to remain in the pots in a cool position, on a bed of ashes. The advantage in early planting is that good fruits can frequently be obtained late in the same season of planting.

Gooseberries.—The foliage of this fruit is frequently attacked by two enemies, viz., the Gooseberry saw fly and the caterpillar from the

magpie moth. The former is at work quite early in the season, while the latter is more troublesome from now onwards. It is probable that the depredations of the saw fly are often wrongly attributed to the caterpillar. A good preventative is a good dressing of lime to the ground and trees during autumn and again in spring. Hellebore powder will also stop both if lightly dusted over the bushes. If a liquid spray is preferred, use carbolic soap for the fly and quassia for the caterpillar.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Asparagus Beds.—Attention must be given to Asparagus in seed beds, as it is essential that no overcrowding of the seedlings should take place. Stir the soil between the lines with a small cultivator, and encourage the young plants with copious waterings during dry weather.

Brussels Sprouts which were sown indoors and raised in frames should now be ready for planting out. When planting, allow ample room for the development of the plants, as when grown on rich soil they have a large spread of foliage. To gain the fullest return, Sprouts should be allowed a long period of growth, giving the soil between the rows a generous cultivation before finally drilling up.

Kidney Beans.—These may now be safely sown in the open. Sow the seeds in drills 18ins. apart and about 3ins. apart in the rows, afterwards thinning out when the rough leaves appear. In our colder district early sowings often suffer from biting winds, so a warm and sheltered border is generally chosen for the first crop.

Cucumbers in Hot-beds should have their leading shoot pinched out, so that they may be encouraged to spread freely in the frame. Avoid overcrowding, and place the young fruits on slates or boards. Keep the syringe going freely, and close the frame early, and so conserve the sun-heat.

Runner Beans may also be sown now, although it is more profitable to wait for a few days yet, as they are less hardy than the dwarfs, and it is generally a wise procedure to sow again early in June. It is important that the rows should at least be 5ft. apart. Increased production will be shown if the plants are wisely staked or stringed.

Plants Under Glass.

American Tree Carnations.—The disbudding and tying of these will now claim attention. Some stimulant should be afforded the plants now that they are blooming freely, and so extend the flowering period as long as possible. Fumigate on the appearance of aphis, and pick off any diseased or withered foliage.

Celsia Arcturus.—This is a fine half-hardy biennial for the conservatory or outdoor decoration, the flowers being bright yellow. If sown now it comes in nicely for spring flowering indoors. It is of shrubby habit, growing usually to a height of 2½ft. Celsia cretica is also useful for pot culture, and if sown now may be had in flower by October.

Begonia Gloire de Lorraine.—Rooted cuttings should now be potted on into 3in. pots, keeping them plunged in fibre for a time. They enjoy a light spray with the syringe morning and evening.

The Hardy Fruit Garden.

Fruit Trees.—Recently planted trees should receive abundant supplies of water during dry weather, especially those planted against a wall, as they do not generally get their due share of the rains. Where time and circumstances permit, they should be given a generous mulching of rotted manure, preferably from the cowsheds. This lessens evaporation and keeps the young and not over plentiful roots cool and moist.

Strawberries.—Give a run over with the hoe before bedding with short litter, while a good watering of liquid manure may be given after the fruits begin to swell and will prove of much benefit to the crop.

The Flower Garden.

Biennials.—If not already attended to, Sweet Williams, Canterbury Bells, Rose Campion and Myosotis should now be sown for next season's flowering. We find Myosotis Carter's Royal Blue one of the best, both for colour and habit of growth.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CORRESPONDENCE

ANOTHER WAY OF RAISING AUBRIETIAS FROM SEED.

HAVING been raising Aubrietias from seed for the last twenty years, may I say that I do not agree with Mr. Ponting's advice to sow in the open ground and then prick off the young plants, when they are large enough to handle, into the open ground. We have found it much more satisfactory to sow the seed in either pots or pans, and then when the little seedlings are about the size of a shilling to prick them out into pans. By this means it is much easier to get the roots whole and unbroken when they are about to be put into their permanent positions. An Aubrietia wall is very beautiful when in full bloom; and if the plants have been raised from seed of a carefully selected dark purple strain, there will be enough sameness to make a glorious mass of colour, and just sufficient diversity of shade to make the mass alive.—JOSEPH JACOB.

"FIRE" IN TULIPS.

I WAS interested in the answer to "K.M.C., Surrey," on page 221, *re* "Tulips Attacked by Fire." As it is possible for every amateur to have every year on the same bed a nice lot of Tulips, perhaps I may, as a grower for the last forty years, give the reason why you can have in the same flower bed Tulips without fire year after year. What is the cause of fire in Tulips? The fact that the soil is not clean. We Tulip growers take the greatest care to have clean soil, which we can only do by never allowing the foliage of the Tulips to rot on the beds. In our nurseries, before we start to dig up the bulbs, all Tulip foliage is cut off and carried away in boats to the manure heap. This manure is never used on bulb ground, only on grass fields. Should we, however, leave the foliage to decay, it becomes a great danger to the next crop. Suppose that two fields were divided by a hedge, one has been planted with Tulips and the foliage is left on the side of this hedge. The sun comes, dries up the foliage and reduces it to nothing but a lot of dust. It is this dust that does the harm, because the wind will blow it through the hedge into the other field, and all along where the dust has been blown the Tulip foliage will be eaten away by fire—this proves everything. I further advise gardeners, if they want to plant bulbs (Tulips) year after year on the same bed, to take away the top part of the soil of this bed and fill it with some fresh soil from near by, and they will by ordinary treatment never have fire in their Tulips. Tulips are generally grown once in three years on the same field.—C. M. G., *Lisse.*

THE DAHLIA: FOR THOSE WHO SHOW AND THOSE WHO DO NOT.

SOME of my friends after reading my recent note in THE GARDEN (page 227) asked me if I have no sympathy with the exhibition Dahlia. I certainly have. In 1897 I wrote "so long as we have a sturdy artisan population—and may we always have it—who delight in producing on their small plots large symmetrical specimens of either flowers or vegetables, so long, I believe, will there be a steady demand for show and fancy Dahlias." My views are the same to-day, but the point I and many others wish to make is that there are two great and distinct sets of growers. By far the more numerous are those who do not grow for showing, and what best suits their requirements are often varieties which would be of no use on an exhibition table, and *vice versa*. I have for some time been advocating that the Royal Horticultural Society should institute a new award, viz., a certificate of garden merit only to be given after a thorough trial at Wisley. I am glad to have enlisted the support of the Rev. W. Wilks, who says such is as much needed in fruit as in flowers! By all means let us have and let us encourage the growing of flowers for exhibition purposes, but let us help the growers who grow only for the pleasure of seeing the flowers in the garden and home with reliable lists of varieties best suited for their purpose. In the Dahlia this is very necessary.—W. CUTHBERTSON.

SHOULD CHEFS OR GROWERS JUDGE GARDEN PRODUCE AT SHOWS?

"SCIENTIA" rightly observes that judges should be accompanied by bio-chemists, who should submit samples of the vegetables to analysis. I am not at all sure that cooks—I beg pardon—chefs—should be permitted to judge, for I am told that they always eat as little as possible of their own productions, just as doctors when really ill, never trust to their own medicines, but ask other doctors to put them right. Surely the judges should be drawn from among those who consume what the chef produces? Here, however, an obvious difficulty arises, since, of two chefs, cooking a particular v getable, one of them may, by overcooking or under-cooking, destroy some of the virtues of the vegetable, and therefore it would seem logical also to provide judges of the chefs. I am not at all sure that for even fairly comprehensive judging, medical men should not be required to examine the consumers of the chef's productions for after effects; it is said that when a celebrated cookery book first appeared, doctors' night bells were incessantly ringing. One wholesome fact seems to emerge from the controversy, namely, that there are yet a few people who do not suffer from megalomania, the curse of this country at the present moment, and the direct cause of nine-tenths of the present unrest. It is well to remember that megalomania is an almost invariable concomitant of G. P. I.!—G. BERTRAM KERSHAW.

CHERRY CULTURE IN KENT.

YOUR recent note as to the culture of Cherries in Kent states that the "revival" of Cherry growing was due to the introduction of this fruit by Richard Harris, gardener to Henry VIII. It is, I think, very doubtful indeed if the culture of Cherries ever died in this county after Roman times, and therefore still more dubious if it needed a "revival." The origin of the story of Richard Harris is found in a rare book, entitled "The Husbandman's Fruitful Orchard," which was published in 1609; the passage is worth quoting. "One Richard Harris of London, borne in Ireland, Fruiterer to King Henry the eighth, fetched out of Fraunce great store of graftes, especially Pippins, before which time there were no Pippins in England. He fetched also out of the Lowe Countries, cherrie grafts and Peare graftes of divers sorts; Then took a peese of ground belonging to the King in the Parrish of Tenham in Kent, being about the quantitie of seaven score acres, whereof he made an orchard, planting therein all those foraigne grafts which orchard is and hath been from time to time, the chiefe mother of other orchards for those kinds of fruits in Kent and divers other places. And afore that these said grafts were fetched out of Fraunce and the Lowe Countries, altho there was some store of fruit in England, yet these wanted both rare fruits and lasting fine fruit. The Dutch and French finding it to be so scarce, especially in those counties neere London, commonly plyed Billingsgate and

divers other places with such kinde of fruit, but now (Thanks be to God) divers gentlemen and others taking delight in grafting . . . have planted many orchards, fetching their grafts out of that orchard which Harris planted called the New Garden." It will be seen that only a very careless reading of this passage would support the idea that the culture of Cherries had died out and was reintroduced by Harris, and there is much evidence to prove that Cherries must have been largely grown in mediæval times. The old records of purchases for the King's garden in Westminster in 1238 and 1277 include Cherry trees, as did the Earl of Lincoln's garden in Holborn at the close of the thirteenth century. Cherry fairs, celebrations held in Cherry orchards with saturnalian objects, are frequently mentioned by Gower; and Occleve, in the reign of Henry IV, in his poem "De regimine principum" says: "Thy lyfe, my sone, is but a chery feire." The fact that English armies were on French soil for 300 years, on and off, before Tudor days, and that Cherries were largely grown there at that time, makes it highly unlikely that some trees or grafts were not brought back had the Cherry been lost at home. We may therefore rank Richard Harris among our introducers of new fruits, but hardly as a "revivalist."—E. A. BUNYARD.

THE FIRST DARWIN TULIP TO BLOOM.

ATTENTION was drawn in last week's issue (page 236) to the Darwin Tulip Valentine, that opens the pageant of colour among these brilliant flowers. Here in a sunny garden where many Darwins are grown, Valentine was an easy first to

THE PURPLE TULIP VALENTINE IS THE FIRST OF THE DARWINS TO OPEN.

reveal its colour, recalling the lines of old Bishop Herber, who spoke of the time "when spring unlocks the flowers to paint the laughing soil." Its beauty lasts for many weeks and it is still (May 12) in full bloom. The flowers are very large and of purplish hue. In a catalogue I have beside me the colour is described as "Pansy violet with electric blue centre"—a laudable attempt to convey what is an almost indescribable colour.—C. Q.

BRITAIN'S HALL OF HORTICULTURE AND A WOMEN'S SMOKING COMPETITION

SURELY Mr. Horace Wright (page 245) has completely overlooked the perfectly obvious intention of the Council in granting the use of the Horticultural Hall for a Women's Smoking Competition? Fumigating, and I hope I may be pardoned for adding "Spraying," are surely among the two great watch-words of the day, and what could possibly be of greater comfort to growers—whose lifelong combats with insect pests rapidly reduce them to either bankruptcy or an early tomb—than to be assured that the Hall has been thoroughly fumigated and sprayed between the exhibitions?

No, no, Mr. Wright, the Council's fault, if any, is that it does not go far enough! Having started a good work they should surely pursue the idea to its logical conclusion. I respectfully suggest to them that they should develop their aims and objects by displaying pictorial posters depicting the Hall of Horticulture in the act of being femininely fumigated! And as I read that the judges of the fumigators were asked, in giving their verdicts, "to ignore the fumigators' faces" I think everyone will agree with me that the artist for the poster should be Mr. Bateman.

But, sir, I am greatly troubled in this matter. I see that points were awarded to the fumigators while absorbing their Quassia (I mean Coffee) for the manner in which they "read their journal." By "their journal," I know cannot be meant any other paper than THE GARDEN. And my fear is that you may be led to adopt the same line of conduct as the Council and alter the title of my favourite paper to, shall I say, the "Fumigators' Friend"? Horror of horrors, you may also print it on sandpaper in order that it may quickly ignite matches. Aye, the possibilities are darkly terrible, but, sir, you would doubtless have the approval of the Council! It is true that thousands of your subscribers may feel aggrieved and ask you why you invite subscriptions for a horticultural journal and supply a matchbox, but think of the crushing effectiveness of your cogent retort: "All you say, sir, may be perfectly true; granted it *is* objectionable, *but have we not increased our bank balance?*"—A. N. OTHER.

FORTHCOMING EVENTS.

May 24.—Chelsea Show, to be held in the Royal Hospital Gardens, Chelsea (three days).

May 25.—Annual Meeting of the Kew Guild to be held at the Holborn Restaurant at 6.30 p.m. The meeting will be followed by the Annual Dinner at 7.30 p.m. Irish Gardeners' Association Meeting.

New and Rare Plants

THE following novelties were shown before the Royal Horticultural Society on May 10, at Vincent Square, Westminster:—

Wahlenbergia serpyllifolia Malby's White.—For garden purposes this alpine may be considered a lowly Campanula. It is a delightful little plant of close, compact tufts of Thyme-like foliage from which spring relatively large, erect, open Campanula-like flowers which have faint lilac lines along each petal. The whole plant is not more than 1½ins. high. Award of merit to Mr. Clarence Elliott, Stevenage.

Iris regelio-cyclus Hebe.—This is one of the several charming hybrids that were on view. In marking, the blooms are reminiscent of Iris Susiana; they are so delightfully laced and lined with deep violet on soft mauve ground. Award of merit to Mr. van Tubergen, Haarlem.

Azalea Hino Manyo.—This is one of the many forms of Azalea Kæmpferi. A dainty floriferous plant covered with small soft pink blooms was shown. Award of merit to Mr. R. C. Notcutt.

Carnation Wivelsfield Apricot is a fancy perpetual-flowering variety of good type. The apricot colour is brightened by occasional lines of rose Award of merit to Messrs. Allwood Brothers.

Geranium Pylzowianum.—An award of merit was granted to an alpine form, subject to correct naming. It is a compact true Geranium, bearing miniature saucer-shaped flowers of pale lilac colour.

Auricula Mauve Beauty is a large free-flowering alpine variety which would make an excellent border plant.

Anemone His Excellency.—This large, crimson variety has been shown before, and on each occasion has been admired by many. A definite white zone adds to its attractions. This and the Auricula was shown by Messrs. Ryder and Son.

Daphne rupestris grandiflora.—A dainty little rockery variety bearing rosy mauve flowers. It was shown by Messrs. R. Tucker and Sons.

Dianella tasmanica variegata.—Had it not borne flowers one would have thought this was a miniature Phormium. It is a useful foliage plant for the cool conservatory. The pale blue flowers are succeeded by blue berries. Shown by Mr. L. R. Russell, Richmond.

Awards of merit were given to the following Tulips, all of which should prove splendid varieties either for garden decoration or for cut bloom.

Amber.—The buff amber colour is delicately flushed rosy lilac. The blooms have a yellow base.

Carrara.—A perfect pure white which is relieved by golden stamens.

James Watt.—A very handsome bloom of unique deep velvety purple colour. The margins of the petals are slightly incurved and are coloured brown-maroon. The base is blue-black.

King George.—This magnificent Tulip has much the colour of the earlier-flowering Proserpine and a blue-black base.

Orange Perfection.—Despite its name, we must describe the colour as vivid cerise with a purple base, but it is a gorgeous bloom. The above five Darwin varieties were shown by Messrs. E. H. Krelage and Son.

Fantasy is a Parrot Tulip of rose and white colouring. Shown by Messrs. Sutton and Sons.

Arethusa.—A very large buttercup yellow shaded variety.

Marjorie Bewen.—This large satiny rose bloom has a yellow base.

Rosabella.—When first opened the flowers were attractive, but by late afternoon the rose-flushed blooms had faded to a rather dirty pale mauve. These three Cottage Tulips were shown by Mr. C. G. van Tubergen, jun

The Best of the Flowering Cherries

A VERY beautiful and perhaps the finest of the Japanese Cherries is Cerasus Hizakura, which received an award of merit at a recent meeting of the Royal Horticultural Society. It is a double-flowered variety with large blossoms of soft rosy tint. The individual flowers are as much as 2½ ins. in diameter. In point of colour it resembles the variety Jas. H. Veitch, but it is a week or ten days earlier in flowering, of upright growth and much more vigorous, developing into a finer and larger tree. As a standard it makes an excellent specimen tree on a lawn and is particularly effective if it can be given a dark background. The foliage takes a beautiful shade of bronze in the autumn. Planted in suitable surroundings it is hard to imagine a prettier flowering tree when in full bloom.

THIS DOUBLE-FLOWERED JAPANESE CHERRY (CERASUS HIZAKURA) MAKES AN EFFECTIVE LAWN SPECIMEN.

UTILITY AND COMFORT IN GARDEN SEATS

A SEAT is a thing meant to be sat upon. Whether it belongs to the garden or any other species, if it fails in fulfilling that object it is a redundancy. A seat within doors may be an impossible object as a seat and yet good art. In the garden it is wholly bad. Unfortunately for us, and our gardens, we have a great many of these latter to endure. They vary in uselessness and disfigurement, from the arm-chair clipped out of an unfortunate Box tree to that awful travesty the "floral design" moulded in iron. Between these extremes we have an infinite number of more or less painful (in more ways than one) objects called seats—objects they are which invade our gardens like an eruption, and oftentimes quite good gardens, too.

Even the soul of old Topiarius himself would writhe in condemnation should it, in visiting one of our modern gardens, come across one of his offspring, just as he himself would have condemned any other insane interference with the ethics of his ancient art. But let me not tread too heavily on the toes of any to whom the vegetable world in moulded iron has peculiar attractions. These things are very well, perhaps, on the terrace. They may fittingly companion ye nymphs and storks and cemeterial urns in stone, or plaster or lead. Of the "formal garden" they are a part; but don't, don't for the love of Nature, put them in the wrong place; and by so doing commit the "ridiculous excess" of endeavouring to "throw a perfume on the violet." The "rustic" genus in wood, plain or peeled, twin-sister in deception of the living tree to its prototype in iron, is at best a thing that has neither beauty nor utility. Before you can sit upon it in comfort it must be well upholstered with rug and cushion, and the only virtue it possesses is its short life. It dies young; and I hold it only slightly less abhorrent in the ear-wig stage than it is when, as a specious imitation of something that never was on land or sea, it is rather more obviously a bundle of faggots and a pound of nails.

If you must, or think you must, invoke Nature in the making of your garden seat, then let the latter consist of no more than the bole of some fallen tree, some great rock tumbled as by an avalanche to the brink of your shady walk. And as they fall so let them lie. They will not be comfortable; if you fall asleep upon one or other you will probably have disturbing dreams, as Jacob had on his heap of stones, but you will at least have been honest in your effort to "copy Nature."

But there is no need to do any of these things; indeed, there are good reasons why you should not do so, and the first of these is this: There are plenty of seats, good to sit upon, tasteful to look at and which will enhance the beauty and interest of even the wild garden without our indulging in obvious extremes or suffering for "art's sake" a hole in our trousers. Utility, as I have said, and comfort are the first essentials in a garden seat. You can secure both these in wood, iron and other material, but I prefer good honest wood even if you can afford the best of hammered iron. Let the craftsmanship of a cunning worker be expressed in every line of your wooden seat, but avoid any trickery in design, any flamboyant ornament. For honest workmanship in a garden seat is as pleasurable and satisfying a thing as enamelled tiles and specious adornment in carving, plaster of Paris and glue are loathsome. In a word, your garden seat should be the creation of an architect, one who is also a gardener, if you can ever find such a happy combination. Like a beautiful house amid beautiful surroundings, it must possess no offending feature. It need not of necessity be fashioned so as to harmonise with its environments; indeed, it were wiser to have it so that it constitutes a contrast in line and colour. Just as heavy Norman architecture is often admirable among the Gothic arches of towering Beeches, so a well modelled garden seat—the more severely plain the better—will give zest to the grace and subtle charm of a Fern glade. By contrast, the one will give point to the other.

One paragraph as to colour. Many people seem to insist that a garden seat ought to be painted green. This is as great an error as it is to suppose that in structure it ought to be an imitation of some botanical specimen. Green has many faults as a paint for outdoor furniture. It soon fades into a dirty grey; it is not a good preservative; it affords no contrast. Good white-lead oil paint is best of all for wood or iron. Nothing looks so well where the prevailing tone is green, and it stands weather and prevents rust better than any other. The only alternative colours I can tolerate with equanimity are a soft dove-grey and bright red, in both of which red-lead should, of course, be used. To some a bright red seat may seem to suggest a flavour of "impressionism," but it is nothing of the sort. Garden furniture in this colour is used in many places and lands, notably in some of the wonderful public and other gardens of that land of sunshine and flowers, California, and also on the shores of the Italian Lakes. You would not for choice, perhaps, set a seat in this colour alongside a bed of Geraniums nor against a mass of Flame Flower, but in great green spaces beneath trees, on open lawns and in woodland a seat in bright red accentuates the green, gives colour where this is wanting and deepens the sense of perspective. A. T. JOHNSON.

THE GARDEN

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THE GREAT SHOW AND SOME OBSERVATIONS

By the time this issue of The Garden is in the hands of all our readers the Chelsea Show will have become part of the past, with many others that have left their mark on the practice of gardening. It is impossible to tell now whether or no many useful lessons, that should have been learned by those who visited and enjoyed its glories, have been assimilated; but this much, at least, can be conjectured: in many cases little more than a confused impression will be left. Beyond the mere passing delight which inevitably comes to all visitors, no lasting good will remain for numbers who could have profited had they gone with a different outlook. To the exceptions we need not address ourselves particularly, but it is our desire to help those who, from want of thought or inclination, may have failed to reap lasting benefit. Incidentally, we hope that every reader of The Garden who was unable to go to Chelsea may find this issue of service. It is a departure from tradition.

Perhaps never before has the world in general been so ready to look for and accept change. That must be our excuse—if any be needed—for breaking away from the usual and, we fear, unhelpful, though customary, report. This year we decided to invite a number of well qualified correspondents—each specially capable in his own branch of horticulture—to give their unhampered impressions of the exhibits. They were asked to point out and comment on, as qualification and good judgment dictated, anything of note; indeed, to make what observations they pleased, whether of praise, criticism or instruction. At the moment of writing we cannot say whether or no our purpose has been achieved in this attempt to stand in the shoes of the wise visitor whose ambition it was to get all the benefit that could be obtained at Chelsea. Of one thing we are certain; this is, that sincere comment—whether it be of praise or not—cannot fail to benefit not only amateur and professional garden-lover, but the seedsman and nurseryman to whom they owe so much. We ask the exhibitor's indulgence if an exhibit—on which so much thought, care and money has been expended—is passed over in silence. This does not mean—indeed, cannot mean—that it was without merit; on the contrary, we are certain that every exhibitor deserved far more space than it has been possible to devote to those on whose exhibits comment has been made. Our belief is that we have chosen the healthiest, and most generally helpful, way of dealing with the greatest horticultural show in the world. As it is, in this issue we are compelled to confine ourselves to certain subjects, and must leave others for discussion next week. The general importance and value of the great Chelsea Show warrant it.

THE EVENING GARDEN AND THE TIRED MAN

[A business man and a particularly busy business man, in course of conversation, complained that he seldom had the opportunity of using his garden except at the day's end. We were prompted to ask him to set down on paper what he had said by word of mouth. His ideas are outlined below and we think will be read with considerable interest by many who are similarly situated. We will gladly print any suitable suggestions which come to us as the result of his appeal.—ED.]

THE word "garden" has had many prefixes. For example, there are the formal garden, the woodland garden, the rock garden, to mention but a very few. Why should there not be also the evening garden? I think that in the wise selection of the right flowers for and in the skilful planting of true evening gardens lie new and alluring possibilities for all garden-lovers. Our seedsmen and nurserymen in their year's catalogues should make a new cross-heading of "The Evening Garden" in the same way as they do for "The Rock Garden." Under that new heading should be included all the flowers which either open best or give their sweetest scents at night. I think the evening garden would quickly rival in popularity any of the other hyphenated gardens. Even in the case of those who, from one reason or another, cannot make an almost entirely evening garden there are other possibilities. When planning or planting a garden, or changing it, more and more consideration should be given to those flowers that offer the delights of colour and form to the fullest extent during evening hours and to those whose fragrance is in greatest abundance when the day draws to its close. "Man goeth forth to his labour until the evening" is as true to-day as when it was written over 2,000 years ago. When evening comes there can be no greater refreshment to the tired body and jaded senses than is provided by a garden of delight. What is more delicious than the sweet scent which floats through the evening air.

Of all the memories of beautiful summer nights which readily recur none are so indelibly fixed as those that are associated with gardens and their incense. Let an example illustrate my meaning. Most of us would readily join in praise of Honeysuckle—surely one of the choicest of the Creator's gifts to man—yet in the modern garden how seldom is this flower so fully cultivated as it deserves to be? I remember the revelation it was to be allotted a bedroom on a warm summer night in a house half surrounded with a pergola clothed with a wealth of Honeysuckle. The memory of that never-to-be-forgotten and divinely scented room cannot fade. The only regret of the moment was the impossibility of removing panes from wide-open windows! Experiences equally happy, equally unforgettable, doubtless belong to most. But there is no reason why they should be isolated or uncommon.

Frankly, I know no garden which exactly tallies with this evening garden of my fancy. It conjures up many delightful pictures—suggests many possibilities and thoughts. In this garden of imagination there is little room for plants with sombre leaves. It must be possible to see something of the beauty which foliage can supply. We must, therefore, provide for plants of silvery shade. In the midst of others of lighter green they will glint—will even bring into vision those of darksome shades. Then, too, there will be little room for blooms of dusky hue. The flowers must be brilliant and light of colour that they may stand out in the closing hours of daylight. We must introduce a tree here and there, and preferably choose those whose branches are not completely hidden by wealth of foliage. Silhouetted against an evening sky the interlacing of twig and branch will permit delight that will be denied by the tree whose wood is entirely hidden by leafage.

The prints with which the Japanese artists delight our eyes frequently depict a solitary tree set in a sky which at first sight seems impossibly blue. Go into your garden towards twilight. If conditions are favourable you will discover that the darkening sky which you imagined was black is a delightfully rich blue as you look at it through the interwoven tree branches.

It is not always summer, so we want these trees to lend pleasure to winter's garden. The dreary outlook on a December garden without trees need not be suffered. There are occasional bursts of sunshine which make play on the bare twigs and throw a glory of shadow on path or across lawn. Trees in winter time are delightful to those whose eyes can see. Sunshine has been referred to and suggests that the main border or feature of our evening garden must be so situated that it has the play of the western sun. We must not make the mistake of placing it so that we lose any of the value of the light we get. Will not the brilliance and variety of colouring of the western sky add something to the merit of our evening garden?

Above all there must be restfulness. Heresy though it may be to say so, we do not want a mere

PART OF THE HERBACEOUS BORDER AT HAMPTON COURT.

Why not plant an evening border in every public garden for the delight of tired workers who do not possess gardens of their own.

gardener's garden. He delights rather overmuch in trim tidiness and in regularity. His blooms are often too near akin to those of the show table. Perfect blooms can co-exist with unsatisfactoriness, while others less perfect may give restful content. No, we will even suffer a little raggedness and perhaps many things which another would call bad gardening. But in return we may get something which is perfectly restful in those evening hours when we are overtired.

Shall there be a little pool on which Water Lilies may float and in which tree and plant may be reflected? If so, when they disappear as the night shades fall—who knows?—

". . . the silvery moon by night,
Shining with her gentle light"

may be mirrored in the water's placid face and leave a last memory on which to pillow as the overstrained mind seeks the mercy of sleep.

But we must leave this garden of fancy. Let others with greater knowledge than we possess walk into the space which is vacant. Let them construct an ideal for the benefit of their fellows. Let them clothe it with highest beauty and compelling attractiveness. Let them consider whether rich delights are possible for more than a few fleeting weeks. Let them discover whether a tired man's selfishness will, or need, rob his family of day-time pleasures. *But above everything let them make known to us all the garden of their imagination that it may become ours in fact.* Can any of wider knowledge and greater experience deny his fellow, who is less happily equipped, a gift which will bring joy? Does not every true gardener subscribe to the verity of "It is more blessed to give than to receive"? P. H.

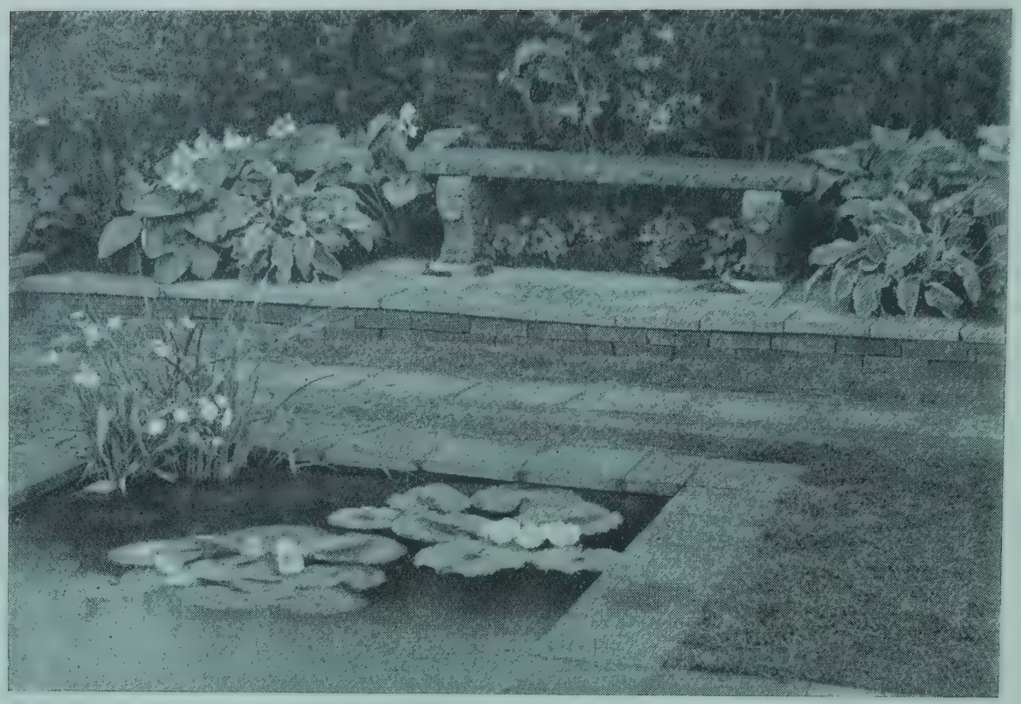
AQUATICS for SHALLOW WATER

Many People are under the Impression that their Ponds are too Shallow for the Cultivation of Aquatics and for this Reason the Water is Neglected. In this Article Plants are Enumerated that Thrive in Water of only a few inches to one foot in depth.

THE great majority of artificially constructed small ponds and streams found in gardens have only a shallow depth of water in them, and even where a larger natural pond or lake exists the bottom will be found in most cases to gradually shelve away at the edges; so that, although a depth of 3ft. or 4ft. exists at the centre where the stronger-growing Nymphæas flourish, there is still space available nearer the margin for those subjects that only need a few inches to 1ft. depth. My primary idea, however, is to consider those that are best suited to small ponds, either formal or informal, where one can approach quite close to the plants or flowers and view them at an intimate distance. And how wonderful many of these dainty, fragile-looking little gems jewelling the sparkling surface are, especially under clear, sunny skies, with a few goldfish darting here and there among them! First place must, of course, be accorded to the Water Lilies, an irresistible sounding name to the flower-lover, conveying as it does the impression of bold, flat, finely coloured leaves floating on the surface, with here and there nestling close down among them an exquisitely formed brilliant flower. With these especially is the value of near proximity appreciated. The strong growers seen in great broad-spreading masses over larger surfaces are magnificent, but where the smaller growers are near the edge and one can bend over and peer right down into the centre of the gorgeous starry cups and note the wonderful shading of colour, then, indeed, their full beauty stands revealed. Varieties thriving in from 6ins. to 1ft. of water are happily plentiful. Nymphæa pygmæa is the Liliputian of the family and bears tiny flowers scarcely 2ins. across with foliage correspondingly small. As its companion, where only the smallest growers can be accommodated, use Nymphæa pygmæa helvola, its counterpart in every way save colour, which is vellow. The Laydekeri varieties afford us a wider range of colours. N. Laydekeri lilacea being blush pink when it first expands, changing with age to crimson The effect of a fine clump of this with flowers in

various stages of development is very fine. A similar characteristic is a feature of N. L. rosea which, when it first opens, is pale pink and passes when mature to deep carmine. N. L. purpurata is a fine blood red. N. odorata alba maxima is, as its name implies, a large pure white, very fragrant form, the beauty of which is tremendously enhanced by the mass of golden stamens. See this near at hand with a fine Peacock, Painted Lady or Tortoiseshell butterfly lightly poised on the petals and you have one of the most entrancing pictures nature can provide. N. odorata exquisita is a magnificent pink species; N. o. swanissima is another lovely pink, raising its flowers considerably above the surface, while the leaves float below them. N. o. sulphurea is the softest yellow, the foliage marbled with reddish brown. The Water Plantain is a vigorous subject that must be kept in check or it will appropriate too large a share of the water's area very quickly. The Bog Arum, Calla palustris, is very charming with its oval green foliage and small white Arum-like bloom. Hottonia palustris, the Water Violet—which throws its pretty pale mauve flowers above the surface, while the bright green leaves, resembling Fern fronds, are submerged—is a gem. A small basin is capable of accommodating quite a respectable plant of Azolla caroliniana, one of the daintiest little floating subjects imaginable. It loves stagnant water and rapidly spreads like a densely clustering Moss all over the surface, becoming a lovely bronzy purple with age. Orontium aquaticum, the Golden Club, is extremely handsome, the foliage, which is submerged, glistening under the water with curious yellow and white club-like flowers. A remarkable-looking specimen is the variegated Porcupine Rush (Scirpus Tabernæmontani zebrinus), the round stems of which are evenly barred out in zones of deep green and yellowish white. Typha minima is a small enough member of the Reed Maces for the small pond. It is but 1ft. high and a rather rare little plant. Closely resembling the Water Lilies is Nuphar luteum minimum with its small green leaves and deep yellow flowers. So much for the water's surface itself, though this does not exhaust the subject. Attention should be paid to the value of reflection from the surrounding plants. Masses of brilliant colour grouped sufficiently nearly to be mirrored on the smooth, shining surface, are doubled in value and add enormously to the lure of the small water garden, to say nothing of the numberless interesting plants which find a congenial home in the damp, boggy ground at the water's edge.

H. W. CANNING WRIGHT.

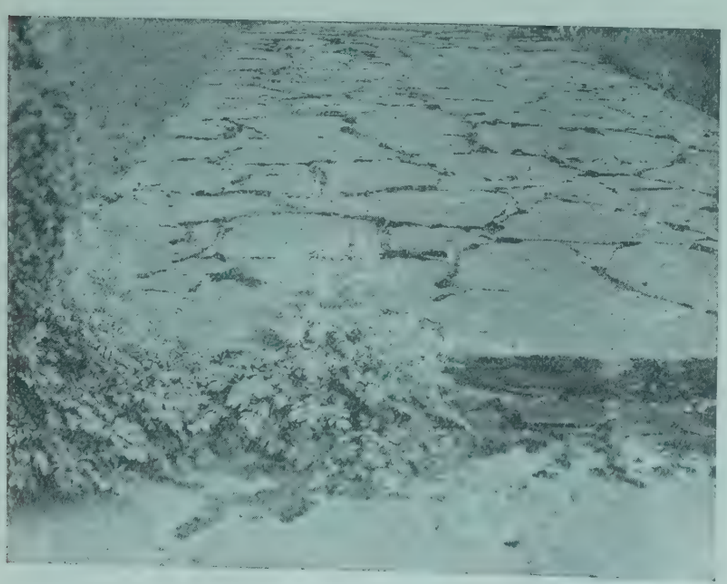


A SHALLOW LILY POOL.

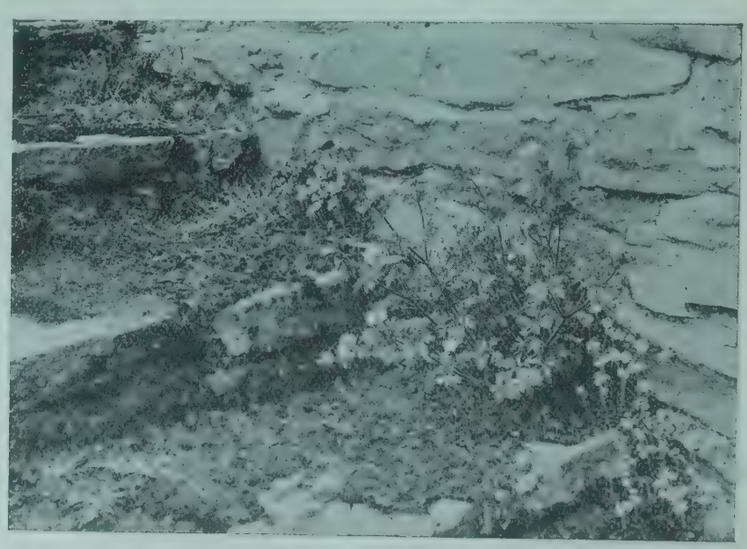
PLANTS IN STEPS AND PAVEMENTS

BY GERTRUDE JEKYLL, V.M.H.

IT was the example of the natural growth of small plants in the joints of steps and at the edges of pavements that led to their being so planted intentionally, and in very careful hands it is a charming way of gardening. What Nature does in this way is full of surprises, for it sometimes happens that what one would have considered a most unlikely plant places itself in dry wall or pavement and justifies its intrusion by a distinct success. But though plants will of their own accord do well in most unlikely places, when they are intentionally placed it should be with the fullest sympathy with what is known of their needs. It is also important that it should be done in strict moderation, for there are gardens that should be taken as warnings where the plants in pavements are so much in excess that it becomes impossible to use the paving for its original purpose as a place to walk on, and there are steps so much crowded with vegetation that no one can go up or down without some crushing or bruising of pretty plants. Plants are never so happy as when self-sown and the illustrations below show two examples in the joints of stonework. Some rough sandstone steps lead up to a loft over a stable. They have a partial coating of Moss, but where they join the wall an accumulation of dust and various small *debris* have formed a little deposit of soil in which Erinus thrives, and this year is accompanied by the pretty wild Herb Robert (Geranium Robertianum). Higher up in the same flight of steps a bush of Rosemary has come, also from self-sown seed, and has thriven so well that it has been necessary to cut back all the front branches to allow of free passage.



CORYDALIS.



WILD HERB ROBERT.

In both cases illustrated seed was self-sown in the steps.

THE GREATEST HORTICULTURAL SHOW IN THE WORLD

Chelsea and The Derby — a Parallel and Some Deductions

THE greatest Horticultural Show in the world has come and will have gone before these words come before the eyes of all our readers. At one time the unhappy coal strike—with its attendant transport and other evils—threatened to prevent the Show altogether. But numerous difficulties were overcome, though not, unfortunately, all. The general concensus of opinion is that this year's Show is the best since 1914, and, both in arrangement and success, is reminiscent of pre-war times. We fear, though, that many exhibitors will not reap immediate, or, indeed, adequate reward for their outlay. If this should be the case, to them we offer sympathy, and for them we ask consideration. We wonder how many people have realised, or even considered, what the world owes to those horticulturists who make the Show possible. They give pleasure to thousands of visitors and, through them, will give pleasure to countless other thousands when the seeds or plants (for which orders have been, or will be, given) are blossoming or growing in the gardens which are one of the glories of our land.

We can imagine some carping individual exclaiming that mere commercial interest provokes the effort and that it brings solid returns. But is this altogether true? Is it not nearer the truth to say that the professional horticulturist expends time and thought and real effort for which, in many other professions, he would receive far higher recompense? Horticulture demands much more than commercial instinct. No mere student of the pass-book could be a successful horticulturist. Flora demands of those who worship her that Nature's book shall be opened and read and loved. We will go another stage and say that no professional working gardener is worth his salt unless he, too, loves his occupation. Its very character compels all who pursue, and are successful in, the art of gardening to become almost hobbyists. This is equally true in the case of the amateur or professional, employer and employed, and whether the art is practised on a large or small scale. It is true also, of the staffs of the great seed houses; they are not mere sellers of goods. The principals and their employees —from the highest to the lowest must possess the right instinct or great

Royal Horticultural Society's Show of this week to Epsom and the Derby of next week? What does the Derby stand for in the horse world? Towards the Blue Riband of the Turf every breeder of the thoroughbred looks as the goal of his ambition. By means of it, and all it represents, the incomparable English racehorse has been evolved. There are the ill-informed who think, and say, that by means of it a mere galloping machine has been produced. But this is untrue. The severe test of the racecourse—the highest test which can be provided—has resulted in the animal whose blood improves the utility horses of the world by introducing stamina, courage and other desirable qualities.

Surely it is not wide of the mark to say that ambition to exhibit at Chelsea some outstanding plant, some variation or improvement on what has been previously shown, has resulted in the marked advance which has been made since the first Show held under the auspices of the Royal Horticultural Society.

We have heard it said that the new, or rare, plant has very limited attraction. Thoughtless critics have complained that the work of the cultivator, the hybridist or the collector is of little interest to the owner of the garden who may possess a true love of flowers but is careless whether they are new or old, rare or common, so long as they are beautiful. But this is very shallow criticism. Numerous examples might be quoted to prove that flowers, which the thoughtless consider common enough, though beautiful, and valuable vegetables to which little thought is now given, are the direct result of the patient work of those who have sought to improve the race or bring plants into commerce from distant parts. Though the comparison between Chelsea and Epsom does not run in a complete parallel, it is unquestionably correct to say there are many points where they are in exactly true relationship. There is one, however, at which the difference is very marked. There can be no comparison in value or distinction between the rich reward which comes to the owner of a Derby winner and the highest award horticulture can bestow. But may it not be said of all who strive to produce a beautiful plant that, even in the patient labour necessarily involved, there is rich and permanent satisfaction? The hybridist or experimenting cultivator does not work for mere monetary reward either comes his way, while there is often considerable disappointment. More often than not any profit which may subsequently come goes into another's pocket, but none can rob him of the pure pleasures that are his alone as the result of his patient work, and while he is performing his self-appointed task.

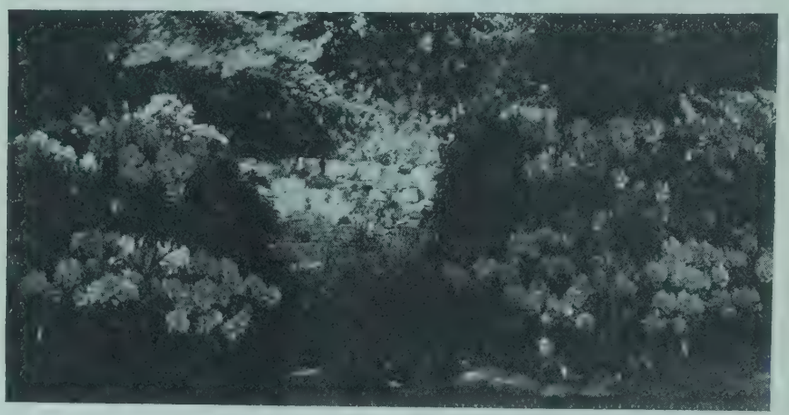
We have said that the garden-lover is a hobbyist. Now a hobby ceases to be a hobby if it becomes a stereotyped practice; the garden owner who is content to do the same thing season after season, or allow it to be done, cannot be called a garden-lover. Hobbies require experiment and experiment spells evolution. Both give pleasure which cannot be readily measured. We rejoice when we see a garden owner trying, for example, a different colour harmony in the border as year follows year. The unchanged garden becomes monotonous and ceases to give true joy. Alterations, whether they be of structure or plan or planting, demand thought and care which in themselves give recreation and enjoyment. When the result gives pleasure to the creator and to his friends, as it generally does if sufficient attention is devoted to it, nothing but good results. We are still in the throes of serious national unrest; can garden-lovers do more towards the soothing of the nation's wrung nerves than by seeking to spread the practice of the art they love so well? From cottage to castle, whether cabbage or orchid is concerned, the practice of gardening gives a deep and permanent joy which few other occupations can impart. We counsel every reader of THE GARDEN who has the welfare of the country at heart to do what lies in his power to spread the love and practice of the purest pleasure he, or anyone, can imagine. It is possible for most of us to contribute something which will add to the sum total of human happiness. Our readers can do much to help our efforts. We cannot pretend to a knowledge of all the good things that have been done to improve the practice of gardening. We cannot conceive all that can be done to make it more pleasure-giving and recreative. But we invite readers to give us the opportunity, through these columns, of making known to a larger public then their own immediate circle, what is being done, or might be done, to make the gardens of England even more productive, more beautiful and

NOTEWORTHY EXHIBITS AT CHELSEA

Messrs. Sutton's Calceolarias, Clarkias and Gloxinias from Seed.

Messrs. Carter's Greenhouse Flowers.

Mr. Elisha Hicks' Rose Group.

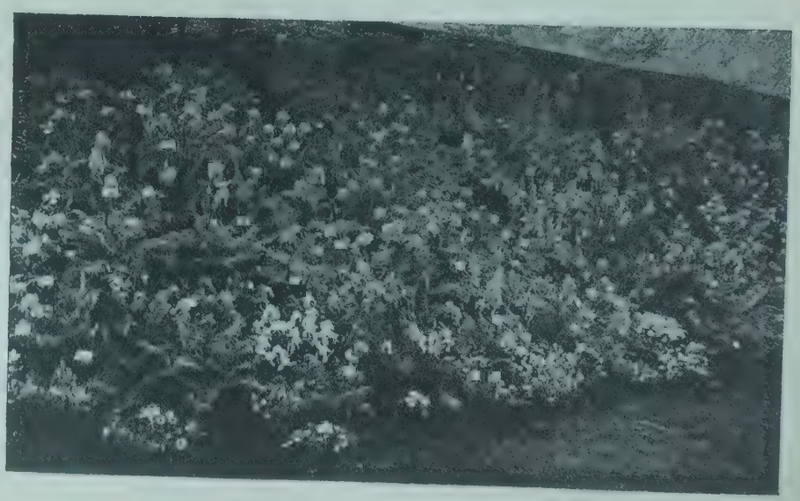


The Rhododendron Entrance to Messrs. Wallace's Rock and Water Garden.

Mr. Herbert Jones's Formal Garden.

Messrs. Whitelegg's Rock Garden.

Messrs. Jackman's Clematis.



CHELSEA SHOW as seen by SPECIAL CORRESPONDENTS

ROSES

One could scarcely realise while at Chelsea that the "flaming month of June," when the Roses in our gardens are in their full beauty, is still in the calendar of the future, for the feast of bloom was ample and glorious. These blooms were, of course, all forced Roses, though the weather has been so favourable that it was only very gentle forcing that was needed to bring them to the high pitch of perfection. Time was, and it does not seem so very long since, that it was only a proportion of the varieties of the day that were suitable for flowering in pots in the warm greenhouse; but after a tour of the tents at Chelsea one was compelled to the conclusion that, for the future, this point need not be considered, for it seems that all and every Rose is equally adapted for this purpose. Except that there are distinct types of Roses—Polyanthas that provide countless numbers of small blooms, Hybrid Teas of shape, form and colouring, single Roses, and so on—it was borne on the visitor that the great majority of the Roses of to-day are practically all-purposes Roses.

NEW ROSES.—The real enthusiast who knows Roses instinctively scans the groups for novelties, and at once appraises them. Although Chelsea is not quite the time or place for any number of these, yet there were sufficient to repay the search. It is pretty safe to say that William Paul has in Florence a gold medal Rose of the near future, a variety shown now for the first time. Describing a new Rose in words that will convey a distinct impression is no easy matter. A mere statement of colour and other points is far from satisfactory, but imagine a Maman Cochet of soft glowing pink colour on erect stalks rising above deep green Pernettiana leaves and an idea of the charm and novelty of Florence will be obtained.

While not new in being shown for the first time, several of Ben R. Cant's novelties are this year's Roses. Of these, Constance Casson was even more lovely than at the National Rose Society's Spring Show, and will be a most popular variety in the future. The rich carmine colour of the half-open blooms pales to a most charming mixture of that shade, apricot and coppery yellow. The plants seem to have a sound constitution, so are not likely to give one trouble with diseases. The Rev. F. Page Roberts, which had a gold medal at the Spring Show, confirmed the high opinion there formed of its merits. A well deserved compliment has been paid to Mrs. Oakley Fisher, who does such charming table decorations at the Rose shows, by giving her name to a deep orange yellow single Rose of the Irish Elegance type and which is so well adapted for floral decorations. The real new Rose on the stand of Ben R. Cant was F. J. Grootendorst, which will probably not be found in the true Rose garden of the future, but will be grown where free-flowering bush varieties are valued. It is a Polyantha rugosa hybrid. The small, almost double flowers suggest a border Dianthus in their shape and serrated edges and dull crimson colouring.

Another new Rose that will be useful for decoration is Pink Delight by Laxton's. It is a large, flattish single of real Wild Rose colour and not more than 2ft. high. Crimson Orleans in the same exhibit was not quite so happy, but may be better later on.

Cutbush makes a speciality of the Polyantha Roses at the shows, and this time was especially successful in associating the dwarf Ellen Poulsen with the taller American Pillar, while Echo with Dorothy Perkins would also be splendid in small round beds.

While delightful as a show exhibit, the oval bed by Hicks is hardly the thing to be copied in the garden, even though the arches along the centre were entrancing. But the Roses, which, after all,

AMERICAN PILLAR AND ELLEN POULSON
In Cutbush's Group.

FLORENCE: SHOWN FOR THE FIRST TIME.

are the thing, were splendid. Lafayette, a new dwarf Polyantha, bearing large, semi-double blooms of mid-pink colour, was very charming

Probably George Paul had the most beautiful arrangement and he also brought excellent Roses, Mrs. H. Morse, a large, flattish, pink-shaded variety would be glorious in the garden or in a mixed border. Walter C. Clarke, of perfect form and rich fragrance, seemed as though someone had lightly brushed the rich crimson blooms with velvety maroon.

The vivid colour of Jessie makes one feel that it must be massed at the end of a short garden walk where the shrubbery commences. This and the larger-flowered pink Ellen Poulsen, which also blooms so freely in pots and in the open border, were delightful in the collection by Turner, who tastefully assembled a large variety on a long bench.

SWEET PEAS

There was much to interest and please the lover of the Sweet Pea, all the leading trade specialists doing their best to outrival one another. Superb quality was represented in the display of Messrs. Dobbie and Co., Limited, Edinburgh. The "Spencer," or waved, varieties were almost exclusively shown, and no fewer than about four dozen stands, vases and bowls were arranged in most artistic fashion. The beauty of this display grew on one the more carefully its details were scrutinised. Renown, orange standard, cerise pink wings, four large blooms on each stem, is a grand novelty. Dignity is another fine novelty of chaste appearance; colour, flesh pink on cream ground. George Shawyer, a salmon orange pink of large size and good quality, are three sorts for distribution in 1922, ready to be sent out next autumn. Varieties that should be in the collection of every lover of the Sweet Pea are Royal Scot, a dazzling scarlet flower of large size; Mrs. Tom Jones, a flower of an amethyst blue colour, quite unique; Orchid, a charming lavender, beautifully frilled and very distinct. A creamy pink sort that should appeal to all interested in this subject is Mrs. Arnold Hitchcock. This is a large flower—one of the largest—and beautifully waved. Dobbie's Maroon is a deep bronzy maroon sort of striking colour and good form, and the ever-popular Royal Purple, a grand purple, as popular to-day as ever. The best white was undoubtedly Constance Hinton, remarkable for size and purity.

Noticeably bright and striking was the display made by Messrs. Alex. Dickson and Sons, Limited, "Hawlmark," Belfast, no fewer than five dozen tripod stands, stately vases and bowls being utilised to make up their exhibit. The white paper covering of the table undoubtedly aided materially to show up the colours of the respective vases of Sweet Peas. There was much to interest and please both the keen enthusiast and the lover of the Sweet Pea in the garden. Novelties worthy of note were Hawlmark Cerise, a self coloured variety of good size, beautifully waved, four flowers being invariably borne on each stem; it is also sweet scented. Conquest was also especially noteworthy. This is distinct and most attractive, both in form and colour, the flowers being beautifully waved. The colour may be described as deeply edged salmon pink on a white ground. The flowers are distinctly fragrant. Certainly one of the darkest of all Sweet Peas shown in this display was Ravenswing. In comparison with most other dark sorts this new variety stands out most distinctly. The colour has been compared with that of the Black Pansy, but it is hardly so dark as this; still it is a very fine thing. An extremely beautiful Sweet Pea was Hawlmark Pink; this was grandly represented; it is certainly one of the very best rose pink varieties yet introduced. The flowers are very large, each stem carrying four flowers all beautifully waved. Hawlmark Scarlet was [illegible]

flower that stood out significantly from other highly coloured sorts. Very fine indeed was a vase of Le Mahdi, a richly coloured purplish mauve sort that should be in all collections. The flowers are large, and each stem invariably carries four flowers. In this trade display the old hooded form, so much admired in the past, was entirely absent, and their welcome fragrance is not, unfortunately, present to the same degree in the modern waved Sweet Pea.

The bright table group set up by Mr. J. Stevenson, Wimborne, was certainly worthy of mention. This exhibitor always shows Sweet Peas notable for their colour, and this year's display was no exception to the rule. This grower had several excellent novelties worthy of mention. We had a great preference for Lavender Belle, a charmingly waved sort of a deep shade of lavender and deliciously sweet scented, each stem carrying four flowers. A novelty to be sent out in 1923 was Poppy—a real poppy-coloured sort of great promise and sweet scented. A distinct sort was Sunset, salmon orange in colour; this is to be distributed in 1922. Especially pleasing was an older variety, Faith. This is a pale lavender sort of much beauty and charmingly waved. It is a most noteworthy fact that the blue and lavender coloured sorts are always remarkable for their sweet scent.

A comparatively small group, but very attractive notwithstanding, illustrated the pleasing character of some of Mr. Robert Bolton's Halstead novelties. Among them were Tangerine, a lovely orange coloured Sweet Pea of much promise. A novelty for distribution in 1922 was Colne Valley, a light lavender coloured variety, beautifully waved. Clear and distinctly attractive was the scarlet Royal Scott, set up in a vase most effectively. The variety Picture was indeed a picture, flesh pink on a cream ground will give the reader a good idea of its beauty. Chelsea is another 1922 novelty and of a colour that may be described as light salmon terra cotta, the wings having a suspicion of pale cerise in them. It is a free bloomer and will be popular. Of the richest scarlet colour is the 1922 novelty, Catchy. This is a splendid novelty and will be seen in our gardens in the future. Of the older varieties, Felton's Cream and R. F. Felton were both splendidly represented.

IRISES

Owing to the influence of weather conditions and the fact that Chelsea Show varies its date to the extent of a few days, it is never safe to prophesy that any particular hardy plant will be up to previous standards. Last year the Show was a few days later, and weather conditions being more favourable the Bearded Irises were strongly represented. This year they were not so good, although there were some exhibits of a very interesting character. Certainly among the best of these was Perry's group of seedlings. It is impossible to arrive at any satisfactory colour description of a flower like the Iris staged under canvas when seen for the first time, and any such attempt would be misleading. Moreover, the fact that these seedlings were mostly staged under numbers suggests that for the present the quantities obtainable are not large. The Iris-lover will, however, do well to keep his eye on the development of this collection. It is going to produce some good things, and everyone interested in Irises will wish to see them named, properly described and in commerce. One word of warning to those who are looking for an early group of Bearded Irises. Mr. Perry tells me that the conditions under which these have been growing have been such as would hasten their development considerably, and that under ordinary conditions of cultivation they should be considered rather as June than late May-flowering varieties. They are, in fact, Alcazar hybrids. I wish space and conditions permitted describing some of these beautiful seedlings. One good thing with pale porcelain blue standards and violet falls, Lady Sackville, was striking; Mme. Viesseux, a giant red purple bicolor with strong velvety falls; Ethel Pearson; C. E. Pearson; Lord Lambourne, bronze-tinted standards and almost crimson falls; Princess Mary, with a reddish shade throughout standard and falls and true Alcazar type; Duke of York, very pale lavender purple; and Prince of Wales were among the best.

Two other very interesting collections were Bunyard's and Wallace's, neither up to last year's quality, but containing a number of good things among them. In Wallace's group the giant

BARR'S DUTCH IRIS.

Alcazar was in fine form, and another on somewhat similar lines was Lieutenant A. Williamson, with a wonderful red violet fall. Merlin, another good tall variety, and Hermione, a large-flowered paler form, were conspicuous. Regan and Miranda are well worth adding to the best collection.

Another outside exhibit of Irises was worth noting, rather for the conditions under which it was suggested they should be grown. Here it was shown that a bit of rough meadowland, full of moisture, as was evidenced by the ditches running in various directions, could be broken up and planted with May and June-flowering Bearded and Dutch Irises. This is misleading and it is only fair to say that the effect aimed at was probably akin to the Japanese Iris garden, but that the right material not being forthcoming at this season the wrong was used indiscreetly. None of the Irises introduced would thrive and flower in such boggy conditions as were suggested, and if you desire to avail yourself of the idea, restrict your planting to the moisture loving Irises, the Sibiricas and other grassy land forms and, for later on in the season, the many beautiful varieties of Kæmpferi.

Barr's were showing the Dutch Iris largely and in very good form. These should be planted where an earlier flower than Spanish Iris is desired, and varieties that should never be left out in making a selection are Roland, Holst, Barkemeyer, Der Kinden, and the delicately tinted Blommers. I noticed Anton Mauve in another exhibit as a very fine blue tinted Dutch variety.

The best and most conspicuous among Bunyard's were Walneriana, Isoline in great form, Lohengrin, that seemed to me to lack its full colour, but was nevertheless well grown. There were, however, many other good sorts in this neatly conceived little Iris garden. There is no doubt that as an exhibit this was very pleasing, and suggested pretty possibilities. One question that might be asked is: Is growing Irises in a formal garden in beds of geometrical design quite justifiable? The answer is yes! if due care is taken to introduce other plants that will redeem it from dulness at a late season.

BUNYARD'S IRIS WALK.

Pleasing as an exhibit, it is worthy of adoption in one's own garden, when conditions are favourable, providing always this point is studied. Irises are beautiful at their best, the flowering period, and the foliage serves many useful purposes later when grouped with other plants. Of the many other species and varieties of Irises in the Show there is little time to speak. Sibirica, Orientalis, Snow Queen and Emperor, and other Sibiricas for moist ground, and also Bulleyana. Regelio-Cyclus Irises for dryer conditions, Californian Irises, tenax, Watsoniana, and others were well represented. These charming small Irises are more than worthy of a place in every garden with a sunny spot in which to plant them.

STOVE AND GREENHOUSE PLANTS

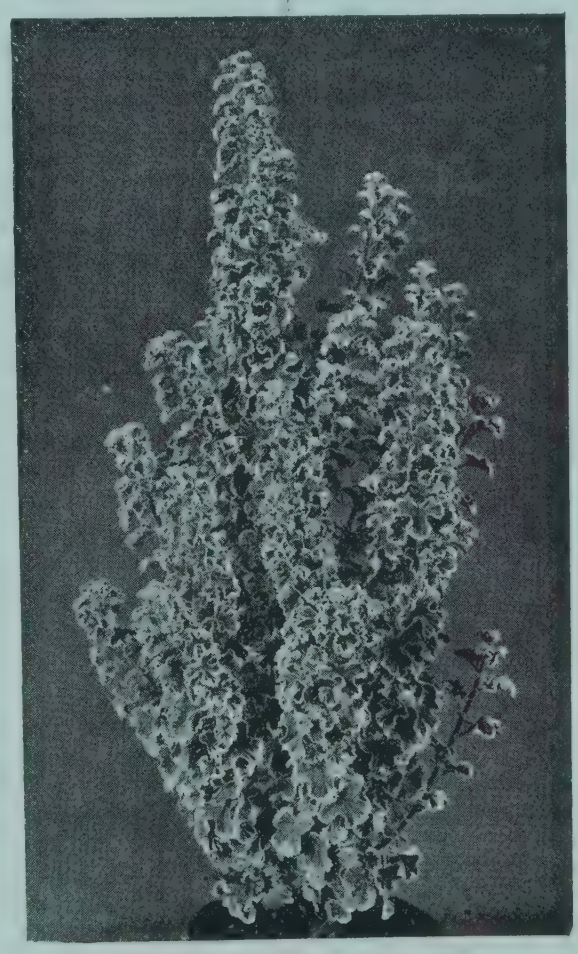
It was impossible not to be greatly impressed by the magnificent group of plants, embracing a host of different subjects in wondrously diverse form, that met one on entering the first of the large tents from the Chelsea Hospital entrance. This large and comprehensive exhibit well maintained the high reputation that Messrs. Sutton and Sons, Reading, have gained for doing things in thorough, representative fashion. Here were to be seen herbaceous Calceolarias in the pink of condition, art shades of colour being charmingly diverse. There was also a beautiful lot of Cloth of Gold, a grand self-coloured yellow variety. Perfection Mixed were also shown in excellent condition. Cineraria stellata in two bold masses were shown in white and blue shades in one and in white and pink tones in another, the shade of colour in each instance showing how great is the advance made in later years. Baskets of white Gloxinias and individual plants in bowls arranged on stands here and there in the group for effect, contributed materially to the beauty of the display. Giant hybrid Streptocarpus in pleasing variety, Salpiglossis in variety, Schizanthus of varying form, Antirrhinum and Clarkias, etc., all contributed to make a display never before excelled.

As usual, Messrs. John Peed and Son, West Norwood, S.E., set up a large group in which Caladiums largely predominated. We question whether the Caladiums were up to their usual standard; they appeared to lack colour. There were many superb sorts set up, including the old and always popular Candidum. Red Ensign was a reddish-centred variety of dainty form and good colour. A noteworthy white spotted variety on a red ground was Dorothy Hodgson, as was also an improved form of Valse Bleu. Thomas Tomlinson, as a plant of good form, merited recognition, as did also Racine, and several specimen Crotons in 6in. pots were to be seen.

Zonal Pelargoniums in bunches made a bright and attractive exhibit as shown by Mr. R. J. Case, Taunton. The pips of the singles were large in most cases, especially in the case of variety Somerset Lass, clear rosy scarlet; Mrs. A. C. Adams, deep rosy scarlet; and Staplegrove Wonder Salmon. Double and semi-double sorts were well represented by Louis, a rich crimson; Marjorie Slade, scarlet; Lady Gertrude, pink; and Lave, vermilion. These sorts are excellent for all purposes.

At the Embankment end of one of the large tents there was represented a group embracing a wonderful variety of greenhouse plants. This was an exhibit made by Messrs. James Carter and Co., Raynes Park, London, S.W., who merit special recognition for their fine effort. There were in this display plants for the specialist as well as subjects for the grower who wishes to make the most of several subjects of quite easy culture. The Schizanthus were noteworthy for their [illegible] flowering character, the flowers being beautifully marked and pleasingly diverse. Cineraria stellata in wondrously varying form were seen in typical conditions, and Cineraria grandiflora, which this firm describe as "Brilliant Prize," were remarkable for the large size of the flowers and their brilliant colourings. Herbaceous Calceolarias were shown in ideal form and condition, both colour and size of blossoms leaving nothing to be desired. Gloxinias were never seen in better form, the individual flowers being very large, the colours specially noteworthy and the plants freely flowered. The Streptocarpus were dainty, the colours being most pleasing. Begonias, all double-flowered sorts, were excellent. Stocks, Petunias, Clarkias, Seedling Coleus and many other most interesting plants made a most remarkable display.

Ferns and Cacti are always most interesting, and a few of the former and numerous small specimens of the latter were a source of pleasure



THE NEW PELARGONIUM CRISPUM VARIEGATUM.

Shown by the Hon. Vicary Gibbs, Aldenham House, Elstree (Gardener, Mr. E. Beckett).

to many. Of the Ferns, Davallia epiphylla, D. ornata and D. binsiliense were good specimens. Quaint and curious were the Cacti, all dainty little specimens and excellent for a beginner to work up a fine collection. This exhibit came from Mr. H. N. Ellison, West Bromwich.

As usual, Messrs. Godfrey and Son, Exmouth, Devon, made a table group of Pelargoniums. The plants were well grown and, on the whole, freely flowered and represented a charming variety of colours. Fascination was a pretty sort, as was also Mrs. Stanley Thomas, bright rich colour of good form. Rose of Devon, Cardiff and Godfrey's Heart were a superb trio.

Streptocarpus and Begonias as shown by Messrs. John Peed and Son, were interesting. The former were represented in many very pleasing shades of colour, and the Begonias were represented by several varieties of promise.

Most interesting was a little group—rather crowded—of Hydrangeas. Had the well grown plants been less crowded the effect would have been infinitely better. Mme. E. Moulliere, Mme. Chautard and Hortensis were splendidly shown and reflected great credit on Mr. A. Jewell, gardener to Mr. P. H. Mann, Rotherfield, Sussex.

A table group of small plants of market-like form, embracing Fuchsia The Doctor, Fairy, Emile Zola, Cupid, Display; and the "double" flowered varieties Fascination, Ballet Girl and Mauve Beauty represented these old and popular greenhouse plants satisfactorily, but they were badly arranged. The names of these varieties are well worth recording for the benefit of those who seldom see these plants nowadays. Verbena Miss Willmott and Scarlet King were both shown in good form, as was Heliotrope Lord Roberts, one of the very best sorts.

Japanese dwarf trees and shrubs and miniature Azaleas, growing in Japanese artistic ware, were quaint and curious as shown by the Yokohama Nursery Co., Limited.

Anthuriums so curious in their form, were shown as a table group by Messrs. L. R. Russell, Limited, Richmond, London. Freely flowered plants of Azalea indica from the same firm formed part of a group and made a gorgeous display. For the guidance of those anxious to form a collection of these plants we would recommend the following varieties: Schryveriana, a peach-coloured sort, very double; Jules Roehrs, rich cerise; Camelliaflora, salmon, wonderfully double; Ernest Thiers, rich rose; Hexe, almost hardy, a useful plant; and Mme. J. Hearens, soft salmon rose. These are just a few of the better sorts that merited recognition.

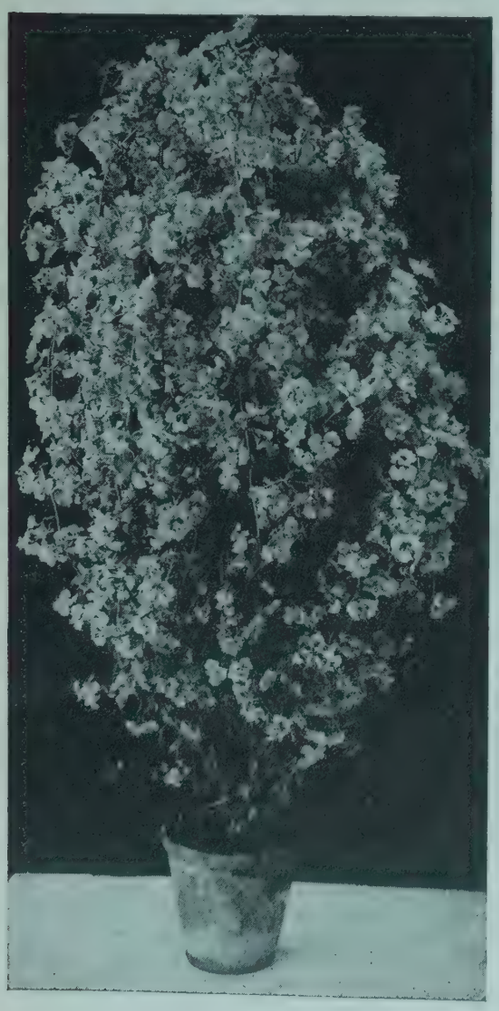
A large group of miscellaneous stove and greenhouse plants is at all times most interesting and pleasing. The composition of such a group and as set up by Messrs. L. R. Russell, Limited, represented a plethora of good things. Here were to be seen in the centre a most striking group of Anthuriums, and at each corner of the group Hippeastrums in all the gorgeous colourings for which they are noteworthy. Among the more striking foliage plants were shown Caladium Triomphe de Comte, C. Marquis of Camden (still very popular), C. Botofogo, C. Mrs. L. R. Russell (a richly coloured sort) and the beautiful C. Thomas Tomlinson. Crotons, Dracænas, and other fine foliaged plants were well shown. In this group plants of Anthurium Scherzerianum var. Lord Lambourne proved to be a distinct acquisition to these plants. The Spathe is the largest among all the Anthuriums. There were also a number of new Dracænas and Crotons in wonderful variety.

Double-flowered tuberous-rooted Begonias as exhibited by Messrs. Blackmore and Langdon, Bath, were as nearly perfection as these plants could well be shown. Only by cultivation of the best and by careful selection is it possible to represent plants of this subject as they were on this occasion. We cannot refrain from mentioning a few of the finest examples, as they merit special recognition. Lady Tweedmouth is a beautiful rosy salmon of good form; Lady Cory, salmon orange, is a new sort of considerable merit. It would not be possible to find a more beautiful example of a clear rose sort than Grace, of superb form. Princess Victoria Louise, although a somewhat old sort, is still one of the finest examples of a light salmon colour. A charming frilled sort is Mrs. W. Cuthbertson, pale rosy pink; so, too, is Mrs. H. Moncrieff. The chaste white Mrs. J. Thornton is as popular as ever, and rightly so, as it is free flowering and a persistent bloomer. We must not omit to mention the soft rose pink variety, Betty McDougall, which should be in all collections. Gloxinias from this firm were very good and the colours pleasingly varied

A circular group from a private grower, Mr. A. F. W. Wootten, K.C., Epsom (gardener, Mr. W. Lamson), comprising Fancy Pelargoniums, edged with Maidenhair, was much admired. It was an excellent illustration of how to set up these plants effectively.

ANNUALS

The annual plant still fills an important rôle in the economy of the summer garden, and the lavish display of colour derived from a wisely selected choice of annuals goes far to give the pleasure ground that luxurious appearance of summer comfort for which British gardens are famous. Many people see these extraordinary displays of the florist's art at early summer shows, but go home with a sense of disappointment and chagrin that such accomplishment is far beyond their own reach. But it need not be, and for the assistance of our readers we sought the kindly advice of Mr. Sutton of Reading for a few hints on the successful rearing of hardy annuals. Most willingly he placed his great knowledge and experience at our disposal, and it does not appear that achievement is so difficult to win. To begin with, the mistake almost universally made is that hardy annuals are sown in spring and are expected to build up both a plant system and a flower system in the course of a few weeks. This is asking too much, and the correct procedure is to sow in autumn, winter the plants in cold frames, avoiding damp conditions, and either plant out or pot on the young but by this time stocky plants in spring. This was the treatment accorded the magnificent specimens of Clarkias, Sutton's Salmon Scarlet, and Nemesia Suttoni shown by the famous Reading house. Among these Nemesias a prominent and very beautiful one was Aurora, white and scarlet, which comes perfectly true from seed, a note of which should be taken for September sowing. The same firm showed finely grown specimen plants of Salpiglossis in many colours and these should also be given quite cool treatment, avoiding close atmosphere. If grown in cold frames a mat thrown over the lights in frosty weather is all that is necessary. Masses of Cineraria stellata, Phlox Drummondii, Lobelia ramosa and Mignonette completed the commanding scheme of Messrs. Sutton's design.



SUTTON'S SALMON SCARLET CLARKIA.
(*A single plant*)

GIANT HYBRID SCHIZANTHUS.
Staged by Messrs Webb.

At the other end of the large tent Messrs. Carter of Raynes Park made a speciality of a dwarf race of Schizanthus in shades of pink and rose, with broad sheets of Cinerarias stellata and Cactus-flowered, in many colours. Clarkia Salmon Queen being used to break the level; magnificently grown specimens, too, they were.

A perfectly bewildering variety of colour distinguished the dwarf race of Schizanthus staged by Mr. Alfred Dawkins. What beds of colour could be painted by these fine plants! The secret of success with this most floriferous of annuals is frequent pinching to make shapely and bushy plants, and being content to wait for the bloom till after the plant has been formed and well established.

VIOLAS

One of the keenest disappointments of this great Show was the absence of a good representative display of these increasingly popular hardy flowers. It may be that the extremely hot weather experienced of late was responsible for the meagre character of the few displays seen on this occasion.

Effective masses of the cornuta family were shown by Messrs. Jarman, Chard. It was refreshing to see Viola cornuta, V. c. alba, purpurea and V. c. Mauve Queen all shown in good form and condition. Of the gracilis type there were to be seen the type and Viola gracilis Blue Bird and V. g. Velvet Queen, all most interesting and invaluable for the rock garden and bedding. V. Maggie Mott was also shown in splendid form.

Large exhibition Violas were shown by H. Clarke, Taunton. These large exhibition sorts, however, are seldom useful in the garden. They are usually of straggling, coarse growth and, except in the moister, cooler climate of the North, are seldom satisfactory for garden displays. The better of these large-flowered sorts were Miss Fisher, bluish purple with white centre; Argyle, white centre, edged pale blue; Mrs. W. R. Milligan, large pure white, margined blue; Primrose Queen, a primrose self; Moseley Perfection, rich yellow (good for bedding); and J. V. Macdonald.

Violas for bedding were fairly well represented by Messrs. John Forbes (Hawick), Limited, Hawick. All the varieties were especially adapted for creating pretty free-flowering effects in the garden, and the best of them were Kitty Bell, rosy lavender; Maggie Mott, mauve blue; Dunbryan, mauve with white centre; Swan, white; Mauve Radiance, rich mauve blue; Primrose Dame, primrose; Mrs. Chichester, purple with white centre; J. B. Riding, rosy purple and Moseley Perfection.

TREES AND SHRUBS

Chief among the many and most varied trees and shrubs at Chelsea were the gorgeous Azaleas and the brilliant Rhododendrons. It almost seemed that, wherever one turned, there were masses of these most valuable shrubs to be seen. Not that they predominated to any overpowering extent—this was far from being the case—it was rather because of their beauty and the number of new varieties on view. The Azaleas presented particularly "lively" colours, and in Ryder's group this effect was very noticeable. These plants had all been especially grown for the enterprising St. Alban's firm by Koster of Boskoop, and it was astonishing to learn that they had travelled across the North Sea, to say nothing of the two railway journeys. The fresh and bright appearance of the bushes at the Show indicates especial substance and lasting qualities The deep yellow colours of Sunbeam and Esperance make them valuable for woodland planting, where they would hold and reflect the light Koster's Brilliant is truly a brilliant of all the brilliants, while the Occidentalis seedlings were particularly restful and charming

Perhaps the best Azalea colour scheme was the association of the orange shades by Cuthbert. They had T. J. Seidel, Fraus Van de Bom and Sybil, leading up to the deeper shade of Muttatule, which was particularly satisfying. For soft colour effect Aida, a pink rustica variety, is to be recommended.

The lover of colour—colour vivid and attention demanding—would insist on Rhododendrons Doncaster and Bagshot Ruby, which were massed in Waterer's group. Then they would probably require the rows of Rhododendron Pink Pearl, which leads the way to Wallace's outdoor water garden. But the riotous masses of palpitating colour as provided by the Azalea Mollis sinensis hybrids were wonderful.

The season has been much too early for Lilacs and Syringas, which usually are so fragrantly beautiful at Chelsea, but Notcutt managed to bring

a few varieties. Philadelphus virginal and P. Coquete are valuable in their lateness, size of flower and purity of colour, while Miss Ellen Willmott, of large double white trusses, is surely the last of the Lilacs. In this collection the grace and floriferousness of many late spring flowering shrubs was delightfully evident. The Brooms, such as standards of Cytisus Dallimorei and C. sessilifolius were quite perfect, while the silvery foliage of Senecio laxifolius is of almost dazzling brightness.

The Clematis made one wish even more than before that someone would evolve a method of training that would adequately display these glorious flowers in a more natural manner—in such a way as to do them full justice. Jackman's plants, for instance, were models of cultural skill, and testified to the painstaking labours of the hybridiser, but how stiff and formal were the balloon shapes! Still, it does not require undue imagination to mentally visualise the large paper-white blooms of Clematis Marie Boisselot hanging negligently from an arch or even a low rustic pole, particularly on a warm summer evening when the moon touches all white flowers with enchanting rose colour. Gipsy Queen, which retains the rich purple of the old Jackmanni, but is larger; Beauty of Worcester of paler shade, but still sufficiently purple to be gorgeous but not blatant; and the ever-popular Nelly Moser were all beautiful single Clematises. The best of the doubles were Duchess of Edinburgh, Fairy Queen and Lady Caroline Neville, and these all have a fascinating quaintness of form that must appeal even to those to whom double flowers are anathema.

Rare and choice shrubs that are usually associated with the Riviera districts, but which may often be grown in colder gardens if only they are planted in well drained soil by a wall, were there in plenty. Leptospermum Boscawenii in the Donard collection was more bushy than usual, and so was a beautiful mass of bloom. Indigofera Boissii is a good companion to the better known I. Gerardiana. The flowers are larger and of rich purple colour. One could not hope to grow Leucadendron argenteum out of doors, but the Silver Tree, which everyone who calls at the Cape is fascinated with, will thrive in a cool house. The gorgeous scarlet Embothrium coccineum is, unfortunately, only for the milder parts of our country.

In Waterer's outdoor group several sturdy bushes of the interesting Feijoa Sellowiana were to be seen. This is a charming wall shrub, and they also had a huge bush of the crimson Tricuspidaria dependens, which could be grown against a wall in many South Midland gardens. Standards of Viburnum plicatum wreathed with bloom in Waterer's group were fascinating, and elsewhere the same method was successful with Diervilla Eva Rathke.

Among Fletcher's Rhododendrons and upright Cupressus, which are admirable for the upper stretches of the rock garden, were half a dozen plants of Abelia triflora, bearing clusters of deliciously fragrant flowers.

The Japanese Maples, as usual, were fascinating in the feathery grace of their foliage and colour. The most showy were Acer corallina and A. roseo-marginata, but A. dissectum was the richest colour. Fromow seems to have quite the greatest variety of these shrubs and included in Acer pictum albo marginatum a variety of exceptionally pure white marking.

Despite Adison's famous satire and more recent railings, topiary continues to claim its votaries, who critically inspected and approved the workmanship on Cutbush's "cut-bushes" and Cheal's specimens. Whatever one's personal taste may be, the patient skill of the grower is undeniable.

PERPETUAL-FLOWERING CARNATIONS

The Perpetual-flowering, or, as they might aptly be termed, Greenhouse Carnations formed one of the main features of the exhibits under canvas. It is now some twenty-five years since that well known variety Mrs. T. Lawson was introduced from America, and it proved the harbinger of numerous new home-raised seedlings which have brought this country well abreast of the United States as a producer of winter-flowering Carnations, if, indeed, it has not gone to the front. In former years the colour range was limited and the flowers of no great quality, and the enormous strides towards perfection were well exemplified at this great horticultural display. Every amateur who has at his command a cool greenhouse can grow the plants to that point of success which stimulates

THE NEW DIANTHUS ALLWOODII JOAN.
Colour salmon pink.

the desire towards greater effort, and it is our duty here to guide such in a selection of the best and most beautiful varieties.

In Messrs. Allwood's group, the largest in the Show, one noted Wivelsfield Pink, a pink of a nice fresh salmon tint; Wivelsfield Apricot, the ground colour giving it its name, and having delicate markings of light rose; Wivelsfield Beauty, yellow pencilled with salmon; Wivelsfield Claret, self descriptive and very bold in its unique shade; Mary Allwood should not be missed. It was the first of the smooth-petalled sorts, and its colour is a soft cardinal pink. Edward Allwood was perhaps the best of the lot, smooth in outline as a well ordered Border Carnation, and of an intense pure scarlet. Of the foregoing the sweetest scented are Wivelsfield Beauty and Wivelsfield Claret, while for freedom in flowering Wivelsfield Beauty and Mary Allwood are specially recommended. If anyone still wants to grow Malmaisons, and surely their shape does not recommend them, there was a fine yellow variety on this stall called Jessie Allwood, but the best Malmaisons were staged by Sir William E. Cain of Wargrave Manor, Berks, whose blooms reflected the greatest credit on those responsible for their culture. A fine selection of well grown Perpetuals was also exhibited by the same grower.

Messrs. W. Cutbush and Son of Highgate had a well selected lot of Perpetuals with a tastefully arranged groundwork of Pinks. Their new variety, Renown, complexioned in flesh pink and most sweetly scented, gained an award of merit last year, and should be added to the amateur's list for growing at home.

Passing across the tent to where Mr. Englemann of Saffron Walden had displayed his flowers, one's eyesight was seriously tried by gazing at his new Tarzan, surely the most intensely coloured Carnation yet raised. This is a real dazzling orange scarlet, and the shape of the bloom is good, ensuring a great demand when it comes on the market. Nigger is another novelty, a very dark crimson, not very large, but extraordinarily free-flowering, and prominent among this varied display of many fine sorts stood out Jazz, pale apricot yellow splashed with cerise pink; Iona, a white ground fancy whose ground colour is lost in a maze of bright salmon stippling and striping. A fresh, attractive flower this, and well worth putting on that list. Cupid, again, is nice. a pink of slightly deeper tint than the older Lady Northcliffe and a bolder flower. Saffron is a yellow and is ill named, so is its sport, Cream Saffron; but good yellows are too scarce to pass over, and both these flowers are beautiful.

It is a pity Messrs. K. Luxford and Co. of Harlow, Essex, had no staging at their service to assist their display, the vases having to be arranged as well as could be on the ground. Here Aviator, a bright scarlet, was one of the best, followed closely by Mrs. C. W. Ward, a free flowerer, deep pink in colour and a really fine Carnation. These two have gained awards of merit, and more should yet be heard of them. A peculiarly coloured seedling was shown by this firm, mauvy-cerise in shade, which seems rather difficult to comprehend as a colour mixture; but then the flower told you plainly enough that nothing else could describe it, and quite attractive it looked; also a sport of the old crimson Carola, called Variegated Carola, cumbersome of name, but pretty enough, pink ground, spotted and striped crimson.

One always looks for something good on Messrs. Stuart Low's stand, and this year they had a group of new disease-resisting perpetuals, which will strongly appeal to amateurs who know something of rust or spot. Of these, White Pearl is very pure, with strong clove scent, probably the best white perpetual of all; Winter Glow, a deep cerise self, which shows up under artificial light as glowing red. Mrs. Gerrish and Lady Inverforth belong also to this group, the former is apricot, with occasional flakes of coral red, and the latter styled an improved salmon Enchantress, and it certainly looks it. Sheila Greer is also a noteworthy flower of fine colour—a deep yellow orange ground flecked with orange scarlet. Red Ensign, much admired when shown two years ago, again took a prominent place in this exhibit, as did Countess of Wilton, with its strange tint of mulberry terra cotta.

In perpetual Malmaisons, two good varieties are Hon. Charlotte Knollys and Hugh Low

In choosing a lucky thirteen from all the fore going the amateur cannot go far wrong with Wivelsfield Pink, Wivelsfield Beauty, Wivelsfield Claret, Mary Allwood, Edward Allwood, Renown, Tarzan, Iona, Aviator, Mrs. C. W. Ward, White Pearl, Winter Glow and Sheila Greer

BORDER CARNATIONS

This, the peerless shaped Carnation, the unchallenged god of the Dianthus world, has not yet entered his season of glory. July and August are his months "at home," but Mr. James Douglas, of Great Bookham, can generally wrest a few brilliant blossoms from these months to present them at Chelsea. He is the only grower of "Borders" who consistently claims flowers from plants a month or more before they are due, and, consequently, his display was the only one of this type to be seen. The Edenside Nursery has recently become identified with a new break in Cloves of many colours, and fine samples of these were shown in white, blush, claret and salmon. They will become every garden-lovers' plant when better known, but these do not by a long way exhaust the range of colours in which Cloves can now be had. Two very striking scarlet selfs were Veldtfire and Grenadier, and Mr. Douglas also showed some of his newer but already well known fancies, such as Saladin, grey flaked with salmon pink; Sir Douglas Haig, white ground, very heavily marked crimson; and Cleopatra, soft *gros de vin* with apricot just showing at the centre. Newer still are Gloriana, apricot splashed with mauve, a real tip-top flower, but, unfortunately, weakish in the stem; Melanie, an apricot orange and Topaz, yellow lightly flecked rose.

PINKS

To nine out of every ten gardening folks the border Pink is Mrs. Sinkins, and Mrs. Sinkins a synonym for the border Pink. Now, this evolution of Dianthus plumarius had become a wonderfully popular plant, and as a *plant* deservedly so, but it intrigues the mind to think why such a wretched *flower* should ever command the respect it did. For this Mrs. Sinkins, withal of pleasant perfume, is but a floppy, calyx-bursting, ragged parody of what a Pink can be. And if this great exhibition be of instructive value at all, surely in this group the careful florist will find some valuable hints for autumn planting. One must imagine that the Sinkins type of Pink earned its place in many gardens by its excellent border habit and the beauty of its glaucous foliage, because its brief display of teased and flaccid flowers could never have done so alone. But here we have demonstration that nowadays garden Pinks have perfect border habit, perfect glaucous leaves, and perfect florist type of flowers, all linked to a longer period of bloom than had Sinkins and Her Majesty. Why, then, Sinkins, and why Her Majesty? For no reason at all; and the wise will gratefully take note of the newer and finer things their gardens can now have in their place. Mr. C. H. Herbert, of Acocks Green, near Birmingham, has done more than anyone else to raise the Pink to the position of a valued herbaceous plant, and it is interesting to know how he started off in his work of wizardry. By crossing two old and now unknown Pinks, Robert Haulgrave and Arthur Brown, came Progress, a large-flowered, double Pink of rosy lilac shade, whose crowning distinction was a proclivity for continuous bloom. Working on this new comer, Mr. Herbert has evolved a race of Pinks, slightly taller in growth than the old edging varieties of which Sinkins was typical, but retaining the stout flower stem which needs no staking; and, having the great advantage of continuous-flowering, are bound to become useful and popular as genuine herbaceous plants, decorative throughout the winter because of their glaucous foliage and increasing in beauty over a period of years. To mention but a few of these new varieties, there are Queen Mary, Sweet Nell and Model, all of them rose or pink with crimson or red bases, and the last named a flower of exquisite form. Negress and The Imp strike a deeper note of colour, the former rich plum, and the latter dark crimson; but it was the vase of unnamed seedlings that appealed so much to the florist. Here were fine fully double flowers of real Carnation build, in scarlet, carmine red, light salmon (a perfect beauty), Indian red and crimson; also an improved Model, to say which is to talk of making the best better. As a horticultural accomplishment this is one of the fine things of the year.

Messrs. Allwood's race of Pinks called Allwoodii should not be missed when seeking for perpetual-flowering plants. They are already too well known to need an elaborate introduction, but the best for garden decoration seemed to be Joan, Harold (the originator of the group), Susan, Betty, Mary, Robert and Rufus. A specimen plant of the last named was shown growing in an 18in. pot and bearing roughly 600 flowers and buds. This individual plant has been at Chelsea for several consecutive years, each year appearing in a bigger pot, and the firm hope to bring it up again next year in a 20in. pot, bearing, perhaps, 800 flowers and buds! And the plant looks as healthy as a youngster.

TULIPS

I was specially surprised to find Tulips surveying the situation all serene. We have had an early season, nevertheless, they knew Chelsea would not be complete without them. In Dobbie's display from "the land o' cakes" their culture was much in evidence. If one thoroughly understands the principles in Tulip culture they give untold pleasure. Some of special note in the Northern display were Inglescombe Yellow, a bright, clear yellow, one of the best of the Cottage Tulips; Bronze Queen, Boadicea and a very pretty Dutch Breeder, Dom Pedro, a shade of brown mingled with maroon; Orange King, a bright orange flamed with pink—it is an old one but a great favourite; Sunset, then Beauty of Bath with Kingscourt, a golden mauve below; La Tulipe Noire, in fine form, one loves its wondrous colouring.

Of the Parrot Tulips, chiefly those of interest were Perfection, scarlet and gold; Mark Graaff, an orange gold, striped scarlet; and Lutea, a yellow of wondrous charm.

Some of the most brilliant of the Darwins were Professor M. Foster, a carmine red with a white and violet centre. Pride of Haarlem, bright rose with a pure blue centre; and Nora Ware, a white and mauve delightfully blended. Velvet King, deep purple, and Gesneriana Lutea, a sun yellow.

In Barr's display Lupines of various colourings were arranged among the Tulips; all very delightful. I feel I must digress and mention Zulu, Southern Belle, and especially Captivation, a blue and white of entrancing charm.

I noticed the yellow Cottage Tulip Ellen Willmott, The Rembrandt, Tulip Semele. Of the Darwins, Bleu Amiable, a mauve blue; Avis Kinnicott, deep yellow with a brown centre, is a cottage of striking form. Despite the season, the Tulip display at Chelsea was a valiant example, which pointed out—in whatever circumstances you place them—that they invariably master the bright side of things with confident trust.

FRUITS

It is to be expected that at Chelsea the standard of Vertumnus will be lowered in the presence of the Goddess Flora. The pomologist, however, was not altogether without subjects for his approval, and, coal crisis notwithstanding, several well known firms brought up forced fruits in tempting variety. From Messrs. Rivers we expect great things, and they did not disappoint us. A fine group consisting mainly of Peaches was their contribution. Peregrine, one of the best of their introductions was in good form, and Early Albert and Libra were hardly less good. Cherries were few, but an excellent tree of Guigne d'Annonay showed that it is a week or so before Early Rivers inside, as it is outdoors. This is but little grown, but though small, it crops remarkably well, and with the first fruits we need not be too critical as to size.

Messrs. Laxton have in some measure cornered the Strawberry, and they showed on a round table some of their latest introductions. Many of these are too new to speak definitely about, but Laxtonian is a tried and approved variety which will soon be in every garden. "The best Strawberry since Royal Sovereign," said a passing expert.

The King's Acre Nursery showed a large bank of fruit trees, well grown specimens, but the fruit, we fancy, intended to visit Holland House, while its producers said "Chelsea." We cannot help thinking that the fruits were right.

At the end of a tabling many pots of ripe Strawberries by Whitelegg, attracted much enviable admiration. Hatfield Victor, an immense fruit of rich, luscious appearance, and Hatfield Premier, equally desirable, were the sorts so well grown.

VEGETABLES

Delicious young green Broad Beans, to be eaten raw, and the famous Choke are two vegetables greatly in favour on the Continent. My delight was great, therefore, to find Suttons exhibiting both these vegetables. Such fine young green Beans, so good raw, full of vitamines, the protein still unformed and therefore valuable even for the gouty. The Chokes were grand, large and what is more in the right *bud* state, the only condition in which to eat them; but they were not the Orbetello variety, nor even the Florence, which is only a poor imitation of the famous Tuscan Choke. Suttons and Beckett were the only two to exhibit vegetables, but *what* vegetables! Where else than at Chelsea would such a spread of such superlative quality be found so early in the season? Sutton's Peas, World's Record, Little Marvel and Green Gem, were fine; the former of grand flavour. Mr. Beckett showed Edwin Beckett and Quite Content. It is wonderful growing to have a main crop like Quite Content fit now, and those exhibited had been grown *out of doors!* Wake up, British gardeners; success in these things is purely grasping opportunities. Raised under glass and planted out and *grown*, not left to take care of themselves. This is the secret. What Cucumbers Grown from seed and cut within the month. Mr. Beckett also has Chokes and Fevres; so French taste is again emphasised. Both Messrs. Suttons and Mr. Beckett displayed early Potatoes in abundance and variety. Tomatoes, both yellows and reds, were grand in both exhibits. Suttons had Mushrooms, Marrows, Asparagus, Aubergines, Cauliflowers and Beet, and all that could be expected. All were fine. The Carrots were too large.

In next week's issue we shall publish comments on the Rock and Formal Gardens at Chelsea, and on Garden Furniture. We shall include our Special Correspondents' views on Herbaceous Plants, Orchids and Lilies, and draw attention to new and helpful Appliances. The official list of the Judges' Awards will also be given.

TULIP TITTLE-TATTLE

A Valuable Selection of the Choicest Varieties with Hints on Colour Combinations

What's One Man's Meat . . .—Every year I am struck by the different varieties visitors choose as the ones they like best when they have been round and seen my collection of Tulips. Naturally, I am a bit "bucked up" when I find their favourites coincide with my own. Thus last week a doctor friend came and told me (I ought to say I am doing a rest cure in bed and only get a peep at those near the house from the window): "I know which I like—first, Eclipse, and second, Canary Queen." Now, Eclipse is a newcomer. It took my fancy very much when I saw it in Messrs. R. H. Bath's group at Chelsea last year. The natural result followed—I had to buy a few; and now when it is in flower here for the first time it is picked out by my friend as the Tulip he likes best out of the whole lot in the garden. I put it at about the top of the rich deep crimson-maroon Darwins. It has not been long in getting an admirer. Canary Queen, which I mentioned in THE GARDEN for May 14, was at its best when he saw it; and when it is at its best there is no yellow Tulip that I have ever seen that can beat it. When it passes out of its one-toned "flapper" state and develops into maturity with its exquisite combination of lemon and primrose, you probably will realise the appropriateness of its name, Canary Queen. Another visitor, a parson friend, came back full of browny-yellows and Tulipe Noire. Again I was "bucked up." I found the browny one that he liked best was Prince Albert, which, as I know it and as I find it in the only Dutch catalogue which includes a Prince Albert, is a tall handsome Dutch Breeder—a bizarre self which (touching wood) has not developed the bad habit of "breaking." Golden Bronze and Goudvink are grand varieties of this type of colouring, but Prince Albert is grander still. Perhaps if I had a larger number so that it would attract more attention, and if it were not so much given to breaking, Meyerbeer—the splendid coppery-brown, which last autumn woke up to find itself quoted at a big price in the Dutch lists—might be placed beside it. But this is guessing. Tulipe Noire was noticed mainly because of its exceeding darkness. "There was just a little block of it in a bed with some other darkies, but they were not half so black looking." I rather gathered what appealed to my visitor was the marvel of the thing. That, at any rate, is how I look upon it. It is too black looking to be pleasing, and if the individual flowers are examined, many, I fear, will be found to be distorted. Faust, to me, is much more pleasing and, as the popular phrase goes, "a better thing altogether."

The Hammer Hales—Boadicea Mystery.—Hammer Hales is not only a Tulip, but a man. The only mystery about the man is how he managed to throw the hammer so far when he was an undergraduate at Cambridge. He beat all previous records. As regards the Tulip, there is a mystery; and that mystery I have never been able to clear up in an entirely satisfactory manner. It began with an exhibit of Canon Fowler's at the Tulip Conference in 1916. In a vase labelled "Hammer Hales" he had two distinct varieties. They were of somewhat similar colouring, but totally different in form. One was a rough, round bloom; the other a longer and smarter looking thing altogether. A good many heads were put together, and the upshot was that the longer of the two was identified as Boadicea, which Messrs. Wallace and Co. had in their catalogue. It came to them, I think, *via* the late Walter Ware. The two varieties are noted as distinct in the Royal Horticultural Society's Tulip Book, and yet some firms in their catalogues bracket them as synonyms. The difficulty is this: Up to the time of the Conference I grew as Hammer Hales what was then decided to be Boadicea, and if my memory serves me it came from the original distributor, Mr. A. M. Wilson. Where, then, did the other Hammer Hales come from, and how did what I may call Wallace's Boadicea get its name? Boadicea is one of the most effective of all Cottage Tulips, with its long blooms of bright mahogany red with the petals edged with a rich dark amber. When you ask for Boadicea be sure you get it.

A Supplementary List.—No one can find much fault with Mr. Norman Lambert's list in THE GARDEN for May 14 if by Hammer Hales he means Boadicea. I would not have mentioned all he mentions, and, on the other hand, he has probably deliberately left out the few I am about to refer to now. Taking the Darwins first, I would never have left out the following: Faust, a very large dark variety; Aphrodite, a lovely shade of soft rose-pink; Prince of the Netherlands, a large rose-red, not quite a self; Ronald Gunn, a fine, tall dusky lilac with whitish edges and tips to the petals; Miranda, an early ruby red; Petrus Hondius, a particularly bright carmine rose; Eclipse, already mentioned; and Viking, a fine understudy for The Bishop. Mr. Lambert's list of Cottage and Breeder Tulips is hardly as long as that of the Darwins. I would supplement it with the following: Ellen Willmott, a long-waisted bloom of a delicious pale yellow; Mrs. Kerrell, a beautiful amber pink; Inglescombe Yellow and Bouton d'Or, two yellows that are remarkably hard to beat; Golconda, a little known red, but extremely valuable because of its lateness; Beau Brummel, about the most beautiful scarlet Tulip I know; Boadicea (*not* Hammer Hales), bright mahogany red, shading to deep amber at the edges of the petals; Didieri alba, a small, sweet-scented pure white which never flushes; Do Little, a very old English florists' Tulip, pure white feathered and slightly splashed with bright crimson, splendid in a big vase; Prince Hendrik, a Dutch Bybloem with slight and dainty pale purple markings; and Salomon, a lovely rosy mauve Dutch Breeder. These complementary lists are almost as if I had drawn my bow at a venture and shot into the midst of a flock of Tulips; there are so many good varieties worthy of a place in our gardens.

Combinations.—The majority of people who have Tulips in any quantity in their gardens like them to look well. Hence a little forethought about their arrangement and environment. Bad language, whether used by flowers or by human beings, is unfashionable. Swear words ought never to be heard in polite society. Hence these two or three hints are given, hoping that they may be of some use. Have you ever used the old Cheiranthus Allionii as a ground or an edging plant in connection with Tulips? It is a very vivid orange; it "out-oranges" any orange that I can think of. If it is used in combination with any of that rather awkward series of what I like to call ruby reds, such as Palissa, William Goldring, Andromaque, The International and Miranda, the effect is striking and unusual. I have not tried it, but a dark variety that does not grow too tall, such as Tulipe Noire or Paul Baudry, would make a very handsome combination. Never mind if it is somewhat like the devil's livery, no one ever thinks of his Satanic Majesty in a garden. As I write, under the window there is a long bed filled with alternate plantings of rose and deep purple varieties; Prince of the Netherlands, Aphrodite, Petrus Hondius and Rose Beauty are the rose shades, and Greuze, Willem de Zeigler, Moralis and Viola for the deep purple shades. I think if Venus had been substituted for Rose Beauty and Jubilee for Viola it would have been better. Anyhow, the idea may come in for anyone who is thinking of planting Tulips in a row. My last suggestion is just a reminder of the beauty of the large Spanish Wood Hyacinths (Scilla campanulata) in combination with Tulips. I mean the so-called blue and pink shades. If the colours are chosen with discretion the combination will be very charming. The white does not tone in somehow and should be avoided.

JOSEPH JACOB.

CUCUMBER-GROWING FOR AMATEURS

It is always best to grow these succulent vegetables from seed if possible—and there is still time, although only just time, to sow for this season. Those who do not raise their own seedlings may save time and a little trouble by purchasing from local nurserymen young plants ready for planting out.

IT is a common belief of cottage gardeners and allotment holders that Cucumbers are both difficult and expensive to raise; but this is quite a mistake, for in reality the cultivation of this salad vegetable is quite a simple matter, and with ordinary care should be easily made a source of profit. It is by no means necessary to possess a greenhouse, or even an expensive heated frame, for excellent results are readily obtained by using a simple turf frame, which costs but a few pence and is constructed as follows. A sheltered corner of the garden should be chosen, facing south, if possible, and a space marked out about 6ft. wide and as long as may be desired, stout stakes being driven into the ground at the corners. Some turves, clumps of grass, weeds, &c., taken from other parts of the garden should then be built up neatly to form a wall about 9ins. thick all round this space and sloping from a rear height of 30ins. to 18ins. in front. Along the top of this turf wall, which is designed to retain heat and to keep out possible late frosts, strips of wood are placed and are nailed to the corner stakes, making an even surface for the lights to rest upon. These are of the simplest description, consisting merely of light wooden frames crossed with twine and supporting sheets of oiled or glazed calico, a material which is very much cheaper than glass, yet which answers the purpose admirably.

Having thus constructed the frame the soil within it should be hoed fine and mixed with leaf-mould and a little well-rotted stable manure. The plants may be raised from seed in the following manner. A barrow-load of strong stable manure should, without delay, be heaped in one corner of

the pit and Cucumber seeds sown in a large pot half full of light, rich soil, the pot being then covered with a piece of glass. Veitch's Improved Long Ridge is an excellent variety for this purpose, while the shorter Gherkin Cucumber also gives uniformally good results. The pot containing the seeds should next be firmly set on the manure and pressed slightly in. The young seedlings will rapidly develop on this extemporised hot-bed and will be ready for transplanting in a very short time. After the first rough leaves have fully formed the tops above the leaves should be pinched off and the seedlings planted out in the frame, this planting out being carried on as follows: Place some long litter or turfy soil along the bottom of the pit and above it place a wide ridge of fairly warm manure. Tread this down until firm and cover it with light soil of good quality, in which the plants should be carefully placed. As the roots develop more earth should be lightly placed around them, but it should not be made too firm. On sunny days the lights should be removed during the hottest part of the day, and in June and July the pits should be left uncovered for the greater part of each sunny day, but the lights should always be replaced at night to retain the heat absorbed during the day. Regular supplies of water should be given throughout the season, and the roots may be occasionally treated with weak liquid manure. In watering, the plants should never be flooded with water, but should be heavily sprinkled at frequent intervals. During the season weak shoots should be removed quite early, and the bearing shoots carefully trained, the tops being pinched off when they grow too rapidly. Crowded shoots should be carefully thinned, while if a great amount of foliage is produced the leaves may also be thinned with advantage. If two many "false blooms" are observed some of these should be removed, but not all, or fertilisation will not take place.

By following these simple directions a good number of Cucumbers can be readily grown until quite late in the season, and as there is a steady demand for these succulent vegetables, any which are not required indoors may be disposed of quite readily. It should be remembered, however, that the actual food value of Cucumbers is quite small, though they are deservedly regarded as delicacies in hot weather. In addition to the two varieties already named, the Telegraph Cucumber and Butcher's Disease Resister are particularly suited for turf frames. If it should happen that good young plants, ready for planting out, can be readily purchased from local nurserymen, this may save a little trouble in the early stages, but it is always best to grow from seed if possible. G. A. P.

A June Fruit Salad.—Take about one pound of ripe Strawberries and divide them; two sweet Oranges, removing peel, pith and pips; three ripe Bananas sliced thinly as you would Cucumber. Add ten drops of essence of vanilla, sift castor sugar over the confection, and adding a dessert-spoonful of "Scotch." Leave it for some hours to mellow, and if ice is obtainable, put about a quarter of a pound shaven finely and serve.

Scentless Musk.—Can any reader explain why it is that Musk has lost its odour? A matter of ten years or so ago the scent was very strong, especially after warm summer rains. It was then a common plant in cottage windows, but no one seems to have found a scented Musk within the last few years. Why a plant should suddenly have lost its odour is one of the riddles of plant life that has apparently not yet been solved. Readers should make a note of smelling their Musk when in flower, because the old confirmed faith in its sweetness is so persistent that it is impossible to dissociate fragrance from the appearance of the plant.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Bedding Out.—The filling of the beds and borders with their summer occupants must be pushed on with as rapidly as possible and as climatic conditions allow. Rather than risk planting the more delicate subjects before thoroughly hardening off it is better to postpone the operation another week or more, for a bad check immediately after planting does infinite harm. A clearly thought-out arrangement should be decided upon before the work is begun, and no plant should be introduced into any important scheme unless its habit and colour are thoroughly known, and only on a large scale is it wise to introduce many colours. The richest tones are best approached somewhat gradually; thus a long series of beds representing a border may be brightest in the centre or at one end, the latter more especially should there be a suitable finish of shrubs as a foil. A ring or otherwise irregular arrangement of a number of beds give a good effect when the inner ones are in subdued tones leading into much brighter ones on the outside. White should always be sparingly used unless there is some particular reason for its employment; bright yellow is also a colour which needs judicious use, but at the same time it is one of the most effective colours to be viewed from a distance. Used for this purpose in conjunction with rich orange in a position where the sun's rays towards evening would touch it, the effect is really good. Foliage plants, particularly those possessing grey tones, are very helpful in bridging over any possible clashing of colours.

The Kitchen Garden.

Thinning Crops is an operation demanding considerable time in large gardens, but one, nevertheless, which must be carried out as soon as convenient with those crops which are to remain and attain full development. It is not essential for the work to be so thoroughly done with the early crops, as they are used up so quickly. The crops referred to for thinning are Carrots, Beet and Turnips. After the unavoidable treading of the ground during thinning operations the Dutch hoe should always be run through the soil.

New Zealand Spinach.—This is quite a reliable stand-by, especially on light or stony soils, but it can hardly be termed popular. Probably the best way to treat it is to sow in boxes in a frame, afterwards planting out and allowing ample room for development—from 2ft. to 3ft. The summer Spinach should be sown for the next few weeks on cool borders.

Outdoor Tomatoes should be planted firmly in fruiting quarters. Quite favourable places for a few may often be found between fruit trees on walls. Failing such a position the warmest and driest spot in full sun should be chosen. Plant in rows 3ft. apart so that they get light and sunshine through the rows. Unless a particularly favourable season, it is not a crop to pin much faith to, though the unripe fruit from outside plants is very useful for chutneys and jams.

Fruit Under Glass.

Melons approaching, or having reached, the ripening stage must have an abundance of warm, dry air, and the borders or pits in which the plants are growing must also be on the dry side, for it is impossible to get a high finish to the fruits otherwise. The fruits should be cut before being allowed to part from the stem of the plant, and it is an advantage to keep them several days afterwards in an even temperature before using them. To those selecting Melons for the first time suitable for table, the scent of the fruit, coupled with a slight yielding of the flesh at the base if gently pressed with thumb and finger, will give a very good idea of its fitness for using. Succession plants are now making rapid growth in their various stages. Pinch and regulate as necessary and support the fruits in good time with nets or broad strands of raffia. Plants in frames should be encouraged to make rapid headway by closing the frame early. The main stem should be stopped when it is from 15ins. to 18ins. in length, as this induces the formation of side shoots and fruit.

H. TURNER
(Gardener to the Duke of Northumberland),
Alnwick Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Tomatoes.—Early lots will now be swelling their fruits freely, so should have the benefit of an occasional stimulant, more especially if the plants are in pots or in boxes of limited dimensions. A slight dusting of artificial manure, such as Wakeley's, varied at a later period with a weak dilution of liquid manure from the byre will help materially to swell and finish the crop. Attend carefully to the tying and training of the plants, rubbing off all side shoots as they appear. Keep a sharp look-out for white fly and fumigate with Auto-shreds on its appearance.

Cabbages.—Maincrop lots should now be ready for transplanting from the open seed-bed. Have supplies of soot and lime at hand for the protection of the young plants from slugs. Austin's Superb has proved a fine maincrop variety, producing heads of fine quality.

Potatoes.—These will now require plenty of attention. Break up the soil between the rows with a digging fork, especially if the soil is on the heavy side. If thought advisable, give the crop some artificial manure; before the soil is finally drawn up being a good time to do this. Unfortunately many of the crops of early Potatoes in Ayrshire received a severe check during the first week in May, the thermometer registering 12° of frost on the morning of the 5th, followed during the day by brilliant sunshine.

Late Peas may still be sown, but after the first week in June we generally use early sorts as being more dependable in filling their pods during the autumn months.

Lettuces.—Sow Cos varieties for succession, utilising the tops of Celery ridges for this purpose.

Digging.—As Broccoli crops are finished the ground should be cleared at once and prepared for such crops as Leeks, late sowings of Turnips and Kidney Beans.

Fruit Under Glass.

Figs.—These should be thinned early where they are showing heavy crops. Pinch the growths with the exception of the leaders and see that the trees are well supplied with water. A goodly mulching of farmyard material should be given now.

Young Vines will be growing freely now, so strict attention should be given them to ensure that sturdy, well-budded rods may be had. As the root-spread will be near the surface of the border the Vines must be well supplied with moisture, care being taken that the chill is off the water before being applied. It is always advisable to stop the young Vines at intervals so that the lower portion of the rods develop more fully. As the season advances refrain from the use of the syringe, damping the paths only, while front air may be admitted more freely, thus encouraging a more hardy growth.

The Flower Garden.

Bedding Out will now call for attention, Chrysanthemums, Antirrhinums, Violas, Pentstemons and the more hardy types taking precedence, while Dahlias, Begonias and Heliotrope will be kept back until the first week in June. Late bedding material should be kept growing as cool as possible with ready cover available in case of frost.

Herbaceous Borders.—The necessity for much staking and tying will now be apparent in the hardy border, and although other work will be at high pressure, the need for doing this in good time is great, and when carried out early much heart-burning is saved at a later date.

Thinning Annuals.—Beds of hardy annuals should be thinned in good time so that the plants do not become spindly and weak. Thin out according to the vigour and natural spread of the particular variety.

Climbers.—Most of the hardy climbers will be making rapid growth now, so should receive attention to prevent the shoots from becoming entangled or broken. Care should be taken when tying to see that the flow of sap is not restricted in any way.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

CORRESPONDENCE

GETTING TULIPA SAXATILIS TO FLOWER.

A NOTE on this Tulip in a recent issue showed me that others have had the experience that used to be mine, namely, that, though the bulbs increased rapidly in number, they hardly ever flowered. It was tiresome to go on year after year digging up the bulbs and searching for those offsets that had run off sideways from the spots where the original bulbs had been planted, and to replant all the bulbs again in due course only to get one or perhaps two flowering examples among fifty or a hundred bulbs. Knowing that the mountains of Crete from which this Tulip comes must be hot and dry in summer, I put some three dozen bulbs into dry sand when I dug them up last year and put them on top of a hot-water cylinder, where they remained for two or three months. When October came, I found that the bulbs thus treated were still entirely dormant, but that those that had remained in the outdoor bulb shed were already beginning to make growth. This difference was still apparent after Christmas, for the shoots of the bulbs that had been heated were two or three weeks later in appearing above the surface than those of the other bulbs. And now for the result of the heating. Twelve bulbs were potted, of which all but one flowered, each with a stem that had two or three branches; while of the other two dozen, which were planted outside, some nine or ten flowered and made a pleasing patch with two or three of the dull pink and yellow flowers springing from each bulb. Of my unheated bulbs only two or three flowered out of two or three hundred. My object in potting the bulbs was to have the flowers under control under glass and to endeavour to obtain seed of this species. In this I have been unsuccessful, for though several flowers were cross-pollinated, no capsule formed. The only success was with the Algerian Tulipa primulina, a cross which has produced a capsule, though it still remains to be seen whether it will contain sound seed. Even if it does, we cannot hope to know the result before 1927!—W. R. Dykes.

THE OAK AND THE ASH.

EVERY spring the old rhyme about the Oak and the Ash, the soak or the splash, is sure to appear in one or other of the daily papers. In front of my dining-room window is a wood composed almost entirely of Oak and Ash. I have watched these trees carefully for the last thirty-two years, but not once has the Ash come into leaf before the Oak; in fact, there has never been anything approaching a dead-heat. To-day (May 12) the Oaks are in almost full leaf, the Ash but just opening. I should like very much to know if the latter ever precedes the former in other parts of the country.—Heatley Noble, *Temple Combe, Henley-on-Thames.*

ORIGIN OF THE POLYANTHUS PRIMROSE.

IN your "Note of the Week" (May 14, page 235) it is stated the Polyanthus is a cultivated form of the common Primrose; but as the peduncles of the Primrose are not crowned with umbels, as are those of the Polyanthus, may I suggest that the latter has more probably been educed from the Oxlip, Primula elatior, in which the peduncles bear umbels like the Polyanthus and the Cowslip? The true, or Bardfield, Oxlip is abundant in North-West Essex, and in the woods between Debden and Saffron Walden it quite supplants the common Primrose. The Oxlip, generally found where Primroses and Cowslips both abound, is a hybrid of those two plants. (See an article by Miller Christy in Vol. III of the Transactions of the Essex Field Club.)—M. J. Teesdale.

THE BEST OF THE KURUME AZALEAS (RHODODENDRON HINODEGIRI).

THIS is the best of the Kurume Azaleas. It was selected from among fifty varieties by Mr. E. H. Wilson from the collection of Mr. Akashi when visiting Japan. They are now being propagated in the Arnold Arboretum for distribution, this being the first time nearly all the varieties have been seen outside Japan. One of the exceptions is Hinodegiri which has glowing crimson-purple flowers, and is the best known Kurume Azalea at present cultivated in Western gardens. When in Japan in 1918 Mr. Wilson collected seeds of the wild Kurumes on Nishi-Kirishima. Some of the seedlings raised from this seedling are now flowering in British gardens. They are interesting as the wild types, but it is the named varieties among which the Japanese hybridist has spent years of labour which we are anxious to see in flower.—A. O.

THE GLOWING CRIMSON PURPLE KURUME AZALEA.

THE CAPE GOOSEBERRY.

A PLANT of this (Physalis edulis), grown from seed three or four years ago, now spreads over a square 10ft. on the back wall of a Peach-house and grows and fruits freely all the year round. The chief crop is, of course, in the summer, but during the past April I have collected over a pound of fruit. The house is very cool and was at least slightly frosted during the winter, but the plant does not seem to have suffered. The fruit makes most excellent jam—really one of the best—and this is its chief use; but it may be eaten stewed or raw when quite ripe. The ripe fruit is a bright orange colour inside its leafy wrapper, and the latter has then turned grey and withered looking. If treated like Tomatoes the Cape Gooseberry will fruit the first year, and in a warm and sheltered place would be worth trying outdoors. In this garden it grew full-sized fruit, but failed to ripen before being overtaken by frost. I have seen it fruiting in a garden in San Remo as a bush only about 2ft. high.—Ruth Bickersteth, *Cottingham.*

WILD SWISS SHRUBBY CORONILLA.

THIS on May 1 was in full bloom and one of the most striking objects in the rock garden. It is about 8ft. high, a wide and free growing shrub with graceful sprays completely covered with yellow flowers from the top to the ground. This plant I collected as a seedling a few inches high in a Swiss wood in May, 1914. The plant I have described has a very warm and sheltered position in an angle of walls facing south and west but it sows itself freely, and some home-grown seedlings planted in much less favourable places are also doing well. It can be grown under trees (though not, perhaps, to perfection), but it is naturally a woodland plant. The young plants flower at a very early age, and it is altogether such a satisfactory little shrub that it is a wonder it is not more often seen in our British gardens—R. B., *Yorkshire.*

FLOWERS OF LONICERA THIBETICA.

MR. CLARENCE ELLIOTT will, I think, be disappointed with Lonicera thibetica (see page 225). If its flowers are larger than Lonicera syringantha, then those of the latter will require looking for. I have flowered the former the last two years and have been somewhat disappointed with it. It is a leggy grower and flowers sparsely. No one going round my garden has ever remarked upon its beauty, and I have

always had to call visitors' attention to it, as it is so inconspicuous. Granted, the scent is delicious, but the drawback is that there is so little of it. In my opinion L. thibetica is not worth growing in a small or medium sized garden. It is a subject for those who grow out-of-the-way plants and who have acres at their command. I do not know where Mr. Farrer wrote "with the bitterest gall of his pen" about Campanula pusilla Miss Willmott, but if he followed on with praise of Campanula Miranda he was fully justified in disparaging the former, although comparisons are odious. The former is simply "not in it" with the latter, which is the most dainty and graceful dwarf Campanula I have ever seen. This little gem is a monument to the memory of Reginald Farrer, who introduced it first at the show which was held at Olympia some ten years or so ago. Mr. Farrer most generously gave another friend of his and myself a plant each of this little beauty on our promising not to part with it, a promise we faithfully kept.—DEVONIENSIS.

BOOKS

The English Flower Garden.*—As the years pass and we see more and more the value of our best hardy flowers, so do those of us who remember the ways of fifty years ago, when the old pernicious bedding system was the only approved way of gardening, become ever more conscious of the debt of gratitude we owe to Mr. Robinson, to whom above all we are indebted for our deliverance from its tyrannical bondage, and for his long labours in showing us the better way. It is to the honour of THE GARDEN, founded, and until late years edited by him, that this wholesome teaching was, in its earlier pages, given to the world, to be followed, towards the close of the year 1883, by the first edition of "The English Flower Garden." From time to time fresh editions of this, the best and fullest of all gardening books, have appeared. This thirteenth edition—there have been many intermediate reprints—embodies, with a good deal of revised and additional matter, the knowledge and experience of a long life of constant labour and observation, both in the chapters which form the first part of the book—chapters which may be taken as a complete exposition of the best ways of gardening in every branch of the subject and in the alphabetical arrangement that follows, with descriptive and cultural notes, of all the best hardy flowers and shrubs. It is a rare pleasure in these days of cheap process illustration to handle a book that is illustrated throughout—and that copiously—with admirable wood engravings such as appear on the greater number of pages; some of them of quite surprising excellence. There could be no better plant portrait than that of Winter Sweet on page 163 and no better presentment, either of technical excellence or of close fidelity to texture and character, than the picture of a twig of Bay (page 195) perhaps the loveliest form of all living foliage.

FORTHCOMING EVENTS.

May 27.—Gardeners' Royal Benevolent Institution Festival Dinner.

May 31.—Bath and West and Southern Counties Society's Annual Exhibition (five days).

June 6.—Nottingham and Notts Chrysanthemum Society's Meeting.

* "The English Flower Garden," by William Robinson. London, John Murray, price 30s. net.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

ALTERNATIVES TO GERANIUMS (R. C. W., New Eltham).—We agree that, in the even slightly shady position and on a heavy soil, Nasturtiums would produce an excess of foliage at the expense of flowers. By the time the Wallflowers have finished flowering it would be rather too late to transplant Coreopsis with hopes of full success. The Antirrhinums should do very well in the situation described, but we fear the soil, unless prepared well, would be too heavy for Begonias, though these are excellent plants for summer display. We would recommend Pentstemons (particularly such as Sutton's Large-Flowering) and Phlox Drummondii for future trial. The seeds of the latter should be sown in moderate heat during February or March and the seedlings will flower well from June onwards.

TREES AND SHRUBS.

VIBURNUMS (Felsted).—The species of Viburnum mentioned by our correspondent, viz., dilatum, Henryi, prunifolium, macrocephalum and Lentago are all worthy of cultivation The two best are V. macrocephalum and V. Henryi.

CEANOTHUS (Felsted).—Ceanothus Indigo and C. Georges Simon belong to the same section of hybrid late summer and autumn flowering Ceanothus and Gloire de Versailles, and are almost equally valuable. Veitchii or Veitchiana is a species flowering in spring, a very valuable shrub in its season, but the flowering season is not so extended as that of the hybrids.

SHRUBS FAILING TO FRUIT (Lysken, East Yorks).—The red-berried Elder, Sambucus racemosa, is only occasionally seen in perfection bearing its attractive fruits in this country. It fruits freely in France and Switzerland. In England apparently the ideal conditions required to develop the fruits are not often present. Experts seem uncertain as to the particular requirements necessary; one essential is a moist root-run. Why the common Barberry does not fruit is certainly difficult to understand, as this is usually one of the easiest fruiting shrubs to manage. Perhaps the soil is too rich, as bushes undoubtedly fruit the freest in poor soil. The Strawberry Raspberry, Rubus illicibrosus, is another uncertain fruiting shrub. We have found this thrive best in the vegetable garden where the soil is very freely cultivated. The roots may be lifted and replanted about every third year as with a Strawberry bed.

KITCHEN GARDEN.

SHALLOTS UNSATISFACTORY (A. V., Sevenoaks).—The Shallots sent do not appear to be suffering from any attack but drought may be causing them to flag somewhat. Your soil is probably in need of lime, which can be applied now in the form of powdered chalk or in autumn as quicklime. The latter should be used where club-root is prevalent.

FRUIT UNDER GLASS.

STONE SPLITTING OF THE PEACH (S., Whalley).—The cause of this has never been satisfactorily cleared up. Some authorities say it is caused by the larvæ of a beetle (Anthonomus druparum) which feeds on the kernel of the stone. This does not usually greatly check the growth of the fruit. It is singular that the disease rarely or ever attacks midsummer ripening varieties, but always the larger and later ripening varieties and sometimes the extra early varieties as well. We do not think that hard forcing is in any way responsible for the trouble. The best preventive we have found to be is to lift the trees and replant in best Peach soil. This infuses greater life and strength into the trees and so invests them with greater power to resist diseases of all kinds. Be careful to hand fertilise the blossom and to see to it that the fruit is perfectly set. This precaution is very necessary.

FRUIT GARDEN.

PEARS ATTACKED AND OTHER QUESTIONS ("Scot.")—The Pears are attacked by the Pear leaf blister mite (Eriophyes pyri). The best method of dealing with this is to spray in November with caustic soda, lime sulphur wash. The mites hibernating between the scales may then be killed. The poisonous properties of Cupressus Lawsoniana are in doubt, but it would probably have a very irritating effect if eaten by sheep or cattle.

BLACK FLIES AND BEETLES ON APPLE TREES (G. R. R., Surrey).—The flies in the Apple flowers are harmless. They probably belong to the genus Bibis, and doubtless help to some extent in carrying pollen from flower to flower, although they cannot be very active in this. The beetles are in all probability Phyllobius oblongus, a leaf-eating weevil. If very numerous the best plan will be to shake the tree over some receptacle so as to dislodge them and kill them by immersion in paraffin oil or boiling water.

HEADING BACK OLD APPLE AND PEACH TREES (Felsted).—Towards the end of December is, we think, the best time to do this. The trees are then absolutely dormant.

PLUM TREE ATTACKED (A. K., Kenilworth).—The shoot of Coe's Golden Drop is attacked by silver-leaf All parts showing brown in the stem should be cut out and burned, and the wounds painted over to prevent fresh infection.

PLUMS UNSATISFACTORY (J. H. D., Lancs).—The Plums have in part been damaged by some insect, probably a caterpillar, and are in part dropping through imperfect fertilisation. Cross-pollination is desirable in all the varieties mentioned by our correspondent, viz., Coe's Golden Drop, Kirk's Blue and Transparent Gage, and, in fact, it is absolutely necessary with Coe's Golden Drop.

GOOSEBERRIES AND CURRANTS ATTACKED (D. S., Barking).—The Gooseberries and Currants are probably attacked by the Gooseberry sawfly, for which there is nothing better than hand picking. If our correspondent has not time to do this then dust with Hellebore powder while the dew is on the bushes. A second brood may be expected this summer during June, probably, and watch should be kept for the eggs along the midribs of the leaf or the broods of quite young caterpillars on the leaves so as to pick them off immediately they occur and destroy them.

CUTTING OFF LARGE BOUGHS FROM APPLE TREES (M. E. H., Glos.).—Dead or dying branches of old Apple trees may be cut off with benefit to the trees, but the operation should take place in winter. The large branches when cut off from our correspondent's tree were bearing fruit and presumably in good health and vigour. As Apple trees in good health always suffer more or less from severe lopping of their limbs, even if this is carried out in winter, it should never be resorted to if it can be possibly avoided, certainly not in summer. It is generally sufficient to cut out the annual side shoots growing out of the main branches in order to admit all possible light, air and sunshine among the fruiting shoots. Trees, like animals, are keenly sensitive to what may be termed unkind treatment, and resent the same in the only way open to them by refusing to give of their best afterwards, at least for a time. They are just as sensitive to kind treatment, and will show their gratitude as readily. The best way to bring the tree back to good humour and fertility will be by giving the ground over its roots a top-dressing of well rotted farm or stable manure to the depth of 4ins., pressing it down fairly firm.

FRUIT TREES TO PLANT IN SHEFFIELD (Jatear, Sheffield).—There are few districts where the successful growth of outdoor fruit is subject to greater difficulties owing to adverse weather conditions than is Sheffield, and the nearer the town happens to be the greater is the handicap by reason of the smoky atmosphere. Plant the following where spaces are available on the walls: South aspect.—Williams's Bon Chrétien, Louise Bonne of Jersey, Beurré Hardy and Doyenné du Comice Pears. West aspect.—Utility (red) and Jefferson's Gage (golden yellow) Plums. East aspect.—Victoria, President, Conference and Vicar of Winkfield Plums. North aspect.—Morello and the following Cherries; Bedford Prolific (dark crimson), Black Heart and Kentish Bigarreau. For planting in the open quarters our correspondent cannot do better than plant some of the hardier Apples, such as Devonshire Quarrenden, Irish Peach (early), Worcester Pearmain, Gascoyne's Scarlet, Allington Pippin and Barnack Beauty. The above are dessert. Of cooking Apples the following are among the hardiest: Ecklinville, Golden Spire, Stirling Castle, Ellison's Orange, Mrs. Phillimore, Tower of Glamis, Lane's Prince Albert, Mére du Ménage, Bramley's Seedling and Newton Wonder. Of Pear trees try Williams' Bon Chrétien, Fertility, Hessle and Louise Bonne of Jersey. Of Plums try a tree or two of the following: Belle de Louvain (purple), culinary; Comte d'Althan's Gage (red) and Green Gage. Bush trees, such as Red, White and Black Currants, would succeed well, as would also Gooseberries, Raspberries and Loganberries. The two latter succeed well on borders at the foot of north walls. Our correspondent's soil with only 10ins. of loam on the top of yellow clay is not of the best for the growth of fruit trees. It should be well drained, deeply trenched, moderately well manured and liberally limed before planting takes place. Be careful not to plant too deep.

MISCELLANEOUS.

WEED IN LILY PONDS (H. C., Hythe).—The specimen weed sent for examination is not the intolerable American Weed. The presence of fish in the ponds complicates matters, as it is just possible they may be injured by the copper sulphate. To entirely rid the ponds of the weed is a difficult matter. If our correspondent could introduce a few of the ornamental waterfowl, these would do a deal towards keeping it down. It is said that eels are also effective in this direction, but we have no personal experience on this point. Weighted fish nets (garden netting would answer well) drawn across the ponds during the spring and early summer would remove a great deal of the weed; later the problem solves itself. Copper sulphate at the strength of 1lb. to 10,000 cubic feet of water would not harm the Nymphæas.

NAMES OF PLANTS.—H. B. W., Italy.—Anagyris fœtida. It has no English name.——A. B., Wanstead.—Cratægo-mespilis grandiflora.——C. M., Leamington.—1, Pavia flava; 2, Probably Artemisia arborescens; 3, Thermopsis montana; 4, Hemerocallis sp.; 5, Spiræa sp.; 6, Please send when in flower; 7, Photinia serrulata; 8, Lychnis coronaria. The box was smashed on arrival and the flies had escaped.

THE GARDEN

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NOTES OF THE WEEK

[June 4, 1921.

IT is estimated that the number of visitors to Chelsea Show this year constitutes a record. The gate money certainly exceeded that of any previous year, but in this connection it must not be forgotten that the price of admission was necessarily greater. The Show was favoured by three brilliant days and provoked universal expressions of satisfaction. Most visitors found the tents, and even the open-air exhibits, a little too attractive to others besides themselves! Many would-be exhibitors were disappointed because there was no room for them. It is true that the fault was their own because of late application, but their admission would have meant curtailment of space allotted to other exhibitors who were able to make good use of their opportunities. This congestion, for visitor and exhibitor alike, indicates need of expansion. Short of removal elsewhere—and, frankly, we know no more suitable centre—the only solution seems to be to include Ranelagh Gardens, which adjoin the Hospital grounds. Anyhow, we trust the Council of the Royal Horticultural Society will give consideration to the need for extension, not only in order to provide for the comfort and convenience of visitors, but that fuller advantage may be taken of the valuable teaching afforded by the Show. It is a little difficult, as things are, to mark, learn and inwardly digest when one is overjostled by others. We submit that the objects of the Society will be more completely attained if fuller opportunity is given at the annual Show of assimilating the lessons it is intended to teach. Our last wish, in making these suggestions, is to permit even the semblance of adverse criticism of the Royal Horticultural Society, which fully deserves the great success attained by the 1921 Show.

ROSE GOLDFINCH COVERING A DISUSED GATEPOST.

The Finest Annual at Chelsea.—If there was one annual that stood out above all others at the Chelsea Show it was surely the Salpiglossis shown in Messrs. Sutton's premier exhibit, and illustrated on our front cover. The colours varied through shades of yellow, red and purple, and the richness of the tinting was enhanced by a deeper veining. The plants shown were quite 4ft. in height and made a grand display of bloom.

Protecting Strawberries.—Early varieties on warm borders must be thinned a little if large fruits are expected, and where it is convenient a liberal soaking of diluted farmyard manure water will greatly assist in the swelling of the fruits. See that the straw is in position for later ones before fruits swell much, and that nets are erected in good time, for in hot, dry weather birds will often attack the green fruits for moisture.

Dwarf Thymes.—Any sunny, well drained site in the rock garden or close to the margin of paths, where they are apt to be brushed against in passing, suits these invaluable little carpeting plants. Their refreshing and pungent scent is not the least among their attractions and it is only when touched that this becomes apparent. Any ordinary garden soil will serve as they are by no means fastidious in this respect, but at the same time they have a marked liking for leaf mould and do not like stagnant wet. Varieties are fairly numerous. T. azoricus, a very diminutive, shrubby species, with purple flowers; T. carnosus, also shrubby, but grey leaved and erect growing; T. Chamædrys, pale purple and very fragrant; T. Serpyllum album, the white form of a native Thyme; T. S. citriodorus aureus, the golden-leaved Lemon Thyme; T. S. lanuginosus, a good, woolly-leaved lilac-flowered form, are all worth having.

Sweet Herbs.—A little bunch of sweet-smelling herbs is delightfully refreshing to take with one on a summer journey, or when one has to spend time in any close or stuffy place. It seems to bring a reviving breath of fresh air. I make my bouquets of Bay, Rosemary, Lavender (green sprigs or bloom according to the season), Burnet, Verbena, Southernwood, Thyme, Myrtle, Balm and Bergamot; all or any of these. I carried one of these bunches from the North of England to Cologne two years ago and had to distribute many bits to my envious fellow travellers! Rosemary is perhaps the best herb of them all. Balm, which is so sweet to start with, soon loses its fragrance, but Burnet as it withers gives more of its curious cool scent.—R. B.

Pillar Rose Goldfinch.—Yellow climbing Roses are none too plentiful, but in Goldfinch we have a good climber of vigorous constitution that is being planted far and wide. The flowers, borne on long, arching sprays, are deep yellow in the bud, changing to cream when open. In the accompanying illustration it is seen covering up an old gatepost. It is an early summer-flowering climber, free in growth and elegant in flower, an excellent subject for arches and pillars.

A New Iris to which we take exception.—The Bearded Irises of June have an old-world charm, and so long as this is preserved we have no fault to find with the hybridists, but there is a tendency on the part of some hybridists to develop the size of the flowers at the expense of grace and form. There is one new variety to which we take exception — it is named Clematis—in which the standards of the flower open out like the falls or lower petals. The flowers appear like those of a large six-petal Clematis. All six segments of the flower reflex horizontally. But why turn half a flower inside out? And why produce a beard on petals on which there should be no beard? Does not the Iris owe much of its charm to its beautiful curves and natural outline of its flowers?

FORTHCOMING EVENTS.

June 6.—Nottingham and Notts Chrysanthemum Society's Meeting.

June 7.—Royal Horticultural Society's Fortnightly Meeting at Vincent Square, Westminster (two days). Informal Conference on Irises, 5 p.m. Royal Caledonian Horticultural Society's Meeting.

June 8.—East Anglian Horticultural Society's Meeting.

Summer Pruning of Trained Fruit Trees

[Summer pruning is not made unnecessary by winter pruning; they complement one another. Whether from ignorance or carelessness it has been neglected, the results are the same. Sap is allowed to run to waste, branches are less fruitful, poorer fruits are gathered, and the tree loses its symmetrical form. Summer pruning of fruit trees is an operation of prime importance, more especially in the case of trained trees. Mistakes are made in summer pruning, as in all other gardening operations; some prune too early and others too severely. It is hoped that the timely appearance of this article will prove helpful to those who are in doubt on the subject of summer pruning.—ED]

THE RESULT OF SUMMER PRUNING.

THIS is a good time to prune trained trees of any kind that have been neglected. I never yet saw any ill effects arise from pruning when the trees were in active growth, as cuts made then heal rapidly; and stone fruits may be thinned out to any extent without fear of bringing on gumming and other evils that follow a free use of the knife in winter or spring. In fact, in the case of Peaches, Nectarines, Apricots, Cherries, and Plums, on open walls or under glass, I like to do most of the cutting required for the year between the middle of May and the middle of June, as then one can thin out the crop of fruit and all exhausted or fruitless wood at the same time, thereby diverting the whole energies of the tree to maturing the crop, or ripening the current year's wood, as upon that depends greatly the success or failure of the next year's crop.

Apricots, owing to their earliness, should be taken in hand first; as they bear well on the spur system, it is best to leave a fair proportion of spurs on the tree, but not in the way one too often finds them, viz., sticking out like horns a foot or more away from the wall, from which the fruit in that case can receive but little benefit. The finest fruit is either borne on the preceding year's growth, or the spurs that have been kept in quite close to support. On examining trees but slightly pruned, I find that most of the long spurs have one or more growing buds at the base, though weak through being overshadowed by leaves and shoots at the tips of the spurs. Now, if these old spurs are cut back to these weakly buds, they will quickly strengthen and probably be fruitful next year, after which they must be kept close in by timely pinching early in summer. As a rule Apricots are thickly set this year, but do not be tempted to leave too many. The fruit, if evenly distributed over the tree, should be at least 6ins. apart; the green fruits, taken off before the stones are hard, make excellent tarts. Look out sharply for the caterpillar or grub that rolls itself up in the leaves; hand-pick and wash the trees frequently. One of the great drawbacks to Apricot culture is the liability of shoots, and even large branches, to die off suddenly as if paralysed—a branch being healthy, and perhaps full of fruit one day, and the next drooping and dying, and no remedy or very correct explanation of the cause has yet been offered. On this account the fan form of training is most in favour; as soon as a branch fails it is cut out and the remaining ones are spread out to fill up the gap. The spurs of a well-managed Apricot ought never to project more than 2ins. from the wall; close training is the best safeguard against frost, and certainly produces the finest fruit. In short, show no mercy to long spurs, and rest not until the last one is shortened.

CORDON FRUIT TREES ON PERGOLAS WILL REQUIRE SUMMER PRUNING WHEN THE FRUIT HAS FORMED.

Cherries of most of the dessert kinds, such as May Duke, and Black Circassian, grown on sunny aspects, are among the earliest of dessert wall fruits, and in some places are highly prized, but unless great care as regards pruning is exercised, they are liable to produce long horny spurs, on which, from want of a supply of young wood they bear, in the case of old trees at least, most of their crop. It is somewhat difficult to get such trees into good condition. But as finer fruit is borne on young wood, no pains should be spared to secure every young pliable shoot, and to remove either partially or wholly a corresponding number of old hard spurs. Prune off at once all fruitless

spurs, and as soon as the crop is gathered go over the trees again. Not the least among the advantages of having the fruit and foliage close to the support is the fact that when aphides or other insect pests attack the trees, the engine can be made to act on them much more effectively than when the spurs stand out in a semi-wild state. Morello Cherries bear their crop mostly on wood of the preceding year, and any that is fruitless may now be cut out to make room for young growths coming on from the base. We use tough Birch twigs for fastening the shoots to the support, slipping the ends in behind two stout branches The Morello suffers much more than any other Cherry from overcrowding; therefore thin out the branches well now; the produce will be large and fleshy, and the trees will require but little pruning next winter.

Peaches and Nectarines are by many considered to be hopeless fruits on open supports, but there can be no question as to the possibility of growing good crops where the requisite time and labour can be bestowed on them at this usually busy season of the year, and no fruit trees that are cultivated are more benefited by judicious summer pruning than are these. Presuming that the garden engine has been vigorously applied and disbudding attended to, both fruits and shoots will now be ready for final thinning. Proceed by unfastening and removing with a sharp knife all fruitless or weakly wood, cutting back to a young shoot of the current year s growth, that will be trained to the support as the season advances. Be always sure to keep the lower parts of the tree well filled with young wood, the tendency of which is to rush to the top of the support. An equal balance of leaf-growth is a great point to aim at in fruit tree culture. Keep the engine well plied to encourage growth, which should not be fastened too tightly to the support for some time to come. Mulch the roots with partially decayed manure, and water liberally when the fruit is swelling.

Plums of various sorts grown on supports are about the easiest of all fruit trees to cultivate. Not being so tender as the preceding, Plums escape many of the ills from which these suffer, but the same remarks apply to cutting in the spurs and training the young wood, as in the case of Peaches and Nectarines. They bear both on spurs and on the preceding year's wood, and the spurs should never be allowed to extend more than from 2ins. to 3ins. from the supports. The Early Orleans, Goliath, Kirke's, Jefferson's, Green Gage, and Coe s Golden Drop are well worth a place on supports as dessert fruits.

Apples.—Summer pruning is best left until the beginning of August, because, if carried out before this, secondary growth will be made which has to be removed, thus causing unnecessary labour. Summer pruning, if carried out in August, enables the buds below to swell and lay the foundation of fruit spurs. Young shoots require thinning to preserve the beauty of the trees and to ensure good fruits. Remove all superfluous growths and ill-placed shoots. If, however, a tree is inclined to luxuriancy, it is advisable to retain as many regular shoots as can be conveniently trained, so as to divide and exhaust the too abundant sap. At the time mentioned all new growth, except the main extension growths, should be pinched back to an average of six buds (generally approximating to 4ins. to 6ins. from the base).

Pears are frequently unfruitful on walls, while on espaliers they bear excellent crops; yet we set our losses down to spring frosts. My impression is that the wood is left much too thick and that the buds do not get properly ripened. If the present a solid mass of foliage that keeps the sun's rays from the support; consequently the more open espalier, or even standard, gets its buds better matured than those on a support. Try, in the case of a few trees, cutting out half the spurs on which there is no fruit. They will break again at the base, and next year cut out the other half. Plenty of flower-buds will soon be formed. No fruit tree occupies so much space to no purpose as the Pear; a few stray fruits on the points of the shoots, where the wood is free from old, hard, knotty spurs, may sometimes be seen, and that is all. Now is the time to let daylight and the fructifying rays of the sun in among them. With a sharp, strong knife and a small fine-toothed saw thin out all old fruitless sprays, treat the trees liberally as to mulching and watering, for it is poverty rather than over-richness of soil which renders them sterile. Try this plan at least three years and carefully note the result.

Figs on open supports are greatly benefited by summer pruning. Now, when one can discern which fruits will swell up and which not, the useless wood can be cut away entirely, and the points of shoots that are bearing fruit stopped unless required to extend as leaders, for in the open air it is only the crop that is formed at the tips of the preceding year's growth that is of any use, at least, as regards ripening. The leaves of the Fig being large, it follows that the wood must be kept proportionately thin, as it takes all the sun-heat we can get in ordinary summers to ripen the fruit. Therefore all weakly shoots should be removed as early in June as possible. Tie the bearing shoots in lightly to the main branches so that the fruit may get the benefit of sun-heat.

Gooseberries and Currants when grown on supports must have the fore-right shoots pinched at mid-summer, for if left on full length, all the under leaves drop off, and the fruit does not keep so well as when shortened early in the season. Above all things, promote clean, healthy growth in the case of young wood that is destined to carry future crops. Keep the foliage clean and healthy, and so disposed by pruning and training that every leaf ge's the full benefit of all the sunlight.

JAMES GROOM.

TYING SWEET PEAS

THERE will be plenty of work among Sweet Peas for some months now if they are grown on the single stem system up Bamboo canes. The plants have been out some time and are growing rapidly, and it behoves gardeners to see to it that each stem is constantly tied up. In the early stages I find it necessary to give a tie for every 2ins. of growth, for the stems easily snap off in this stage, and then time is lost. Later on, when they are making very thick stems, a tie every 6ins. or 9ins. is enough. Raffia or raffia tape is a good material to use, and do not tie too tightly or the stems will be cut.

I find it most important to go round frequently for the purpose of disbudding. All tendrils and side shoots are removed, and only one stem, not two stems, is run. I do not allow my plants to flower till they reach a height of 4ft. to 5ft.; until then all flower stems are pinched out. Also if, after that, stems bearing one or two flower buds each are still thrown up, they are pinched out before the flowers open, for it is a sure sign that the plants are not yet strong enough to bear bloom.

The ground they are grown in is regularly stirred, and a special look-out kept for basal shoots which are at once nipped out. Watering some of the reliable artificial manures. Feeding is not started till the plants are blooming very well, otherwise it is inclined to make the plants run to leaf and stem. When they are flowering, blooms are cut nearly every day, for by this means the strength of the plants is greatly conserved. If seed-pods are allowed to form, the plants are greatly weakened, as is shown by the immediate reduction in the number of blooms per stem.

E. T. ELLIS.

THE GARDEN OF A TIRED MAN

I HAVE read and re-read with much appreciation the article on the evening garden in your last week's issue. I am unable and unqualified to answer all the questions raised, but "P. H." would do well to devote his garden mainly to fragrant flowers. Evidently fragrance appeals to him as music does to others. I know from experience that there is nothing like fragrance to put one in a good temper and at peace with all the world. Who, for instance, could be in anything other than a good mood with the sweet fragrance of Night-scented Stock, Rosemary and China Roses? The Myrtle, Sweet Bay, Lavender, Thymes and Alecost should all find a place in the garden of the tired man. Doubtless there are many other plants besides these and the Honeysuckle that should be grown. I am afraid this is not a very helpful letter, but on the principle that every little helps I venture to send it to you. If a great many of your readers send what suggestions they can, out of their trifling contributions an evening garden of great beauty and restfulness might be evolved.

L. M. W.

"P. H.'s" idea of an evening garden is very charming. It must appeal to everyone who feels, as I often do, a sense of strain from being any length of time in strong sunlight. When the dusk begins to fall a new delight in life out of doors comes to me, and I find hours spent in the dreamy moonlit garden with some chosen friend the loveliest of the summer-time. But he has forgotten one thing which the evening garden simply must have if the Tired Man is to find it all he desires. And, in passing, why "Tired Man," in these days when most people put their shoulders to the wheel—at least, in the middle classes: I feel sure that your nice, thoughtful, hard-working, beauty-loving man is middle class. The memory of many lovely evenings in starlit night-scented gardens, followed by dismal days when the whole world showed grey green and hideous, looked at with a bad cold in the head, and the groanings of older folks who had contracted "a touch of sciatica" filled the air, leads me to plead with the Tired Man on no account to do without a large garden-house in which to take his rest when the dew begins to fall. From this shelter he will be able to enjoy his evening garden right on till bedtime (if he is not tempted to sleep there) with no risk of a run on the handkerchief drawer or the liniment bottle on the morrow. It could be lighted by a simple lamp and become really the rest-house of the evening garden. It would do away with all suggestion of selfishness, too, for the Tired Man's daughter, and perhaps a friend, could sit in the rest-house while he was gardening They would not mind!—ONLY GIRL.

Some Effects of Drought Upon Evergreens

The Curious Behaviour of Rhododendrons, Camellias and other Shrubs.

FOR a long time I had been puzzled by what appeared to be the ravages of some caterpillar among Rhododendron and other evergreens. The leaves appeared to have had holes punched out of them either at the edges or between the latter and the midrib. Many experts declared these clean-cut bites to be the work of caterpillars, but no creature of that description could I ever discover either by night or day. Then my doubt of the caterpillar theory was strengthened when the discovery was made that the leaves of a Camellia Donckelaari (in the open) were being treated in the same way. Earwigs and woodlice were suspected, of course, but since I could never find either one or the other a few of the leaves were sent to Kew for examination.

The verdict I received will not be news to some readers of this paper. But there may be others who, like myself, are still groping for "light—more light" who may be interested to learn that these leaf-punctures, which one may see in almost any shrubbery, are self-inflicted by the plant. The latter, feeling that life is not going well with it, isolates certain portions of its leaf areas by means of a layer of cork cells, and these, being cut off from the supply of sap, drop out, leaving the curious holes alluded to. Why the plant adopts this "biting off your nose to spite your face" policy is not always clear, but it is very evident that it has good reason for the practice.

In my own case I believe the fundamental cause to be drought, not necessarily root dryness alone, but excessive leaf evaporation. The shrub, feeling that it is subjected to more dryness than it can comfortably withstand, cuts out some of its leaf areas, and by so doing endeavours to check evaporation and so restore that nice adjustment which must exist between absorption and respiration in the economic well being of a healthy shrub. It is well known how Rhododendrons, especially some Himalayans, droop their leaves when subjected to a parching east wind so as to retard evaporation. Here, on my dry bank, I have noticed that these shrubs not only part with portions of their leafage, so as to give what remains a better chance of survival, but they often form lines of cork cells parallel to the midrib of the leaves. This causes the latter to curl inwards, as well as to droop, and it seems probable that this action is but a phase of the same phenomenon, another style in self-preservation.

These facts and assumptions naturally open a wide field for thought on the subject of evaporation in evergreens, and I cannot help thinking that it is one to which the average gardener pays insufficient attention, more especially as regards newly planted shrubs. Why, for instance, do Hollies so often die if planted in winter? Because the evaporation at their leaf pores is greater than their powers of absorption. Yet by cutting back that Holly—if you catch it at the right time—it will often break out. This because you have disposed of the leaf surface which was exhausting the plant and at the same time conserved and stimulated sap energy by concentrating it to a given limited area instead of allowing it to be dissipated feebly over the whole of the branches. It is the same with many conifers which, because they cannot be cut back, are, or should be, planted in spring, when they are just breaking into activity and conditions are most genial.

There are evergreens, notably Elaeagnuses, many Ericas, conifers and some Kalmias, which, when just planted, will endeavour to rectify matters by dropping a number of their leaves while perfectly green, this again, one may presume, being but another mode of that self-preservation above mentioned. But the Holly cannot part with its leaves nor the Broom with its branches which serve as leaves, hence their slow and miserable death unless the surgical knife of the gardener comes to their aid. If these hard-leaved evergreens were able to drop their foliage when tran planted or during hot sunshine, with the cunnir of a Cabbage all might be well. But too oft they are helpless. With no means of checkir the evaporation which is gradually destroyir them, with no damp "ball of soil" to balan that dissipation, they are in most instances bour to succumb.

Of course we know what the moral of all this i viz., "a good ball of soil," frequent waterings i summer, and so on. But I rather think that the average amateur were to realise the why an the wherefore of these things he might ofte avoid disappointment and loss. A. T. JOHNSON.

Improving the Colour of Peaches

The Importance of Regulating both Air and Light.

NEARLY all the varieties may be richly coloured if the fruits are properly treated. Those of a few varieties are naturally pale in colour when grown under really ideal conditions. But the great majority should possess that deep crimson flush which is so desirable and so enhances the value of the individual fruits.

The ideal conditions are those which include a well placed glass structure, healthy trees, fruits properly stoned and exposed to the maximum amount of sunshine from the time of setting till they are ripe.

Too often one finds really nice specimens hidden away under a thick covering of leaves, where they remain till the last stage of ripening begins and then they are suddenly fully exposed to the sun's rays and are marred in consequence, through burning, the skin at this advanced stage being too tender to withstand the sudde heat.

All the fruits possible should be fully expose to the light and sunshine when they are abou the size of Barcelona nuts. Those so treate quickly assume a deep brownish red colour, whic gradually spreads almost all over the fruit and when the latter is nearly ripe it presents a most attractive appearance, being of a deep rich crimson red colour.

Amateur cultivators need not hesitate to so expose their fruits while small and leave them thus till quite ripe; those specimens so treated will not burn nor scald if the ventilation of the structure be duly attended to.

It is those fruits which are unduly shaded and then suddenly exposed to full sunlight that are so liable to be spoiled by burning as well as lack of colour. GEO. GARNER.

PEACH FRUITS FROM THEIR EARLIEST STAGE SHOULD BE FULLY EXPOSED TO THE SUNSHINE BY TYING UP THE SHOOTS AND PREVENTING THE LEAFAGE FROM COVERING THE FRUITS.

MORE ABOUT THE GREAT SHOW

We make no apology for giving a further instalment of the comments of our Special Correspondents. Letters received from readers who were unable to go to Chelsea show clearly that our new plan is thought generally helpful.

THE ROCK GARDENS

The lessons to be learnt in the rock garden section at Chelsea were perhaps more pronounced than at any previous exhibition of the same nature. Taking the three premier exhibits as examples, nothing could be more diverse in character than the treatment introduced by Tucker, Wallace and Symons-Jeune. These exhibits each represented a type quite distinct from the others, and all were excellent examples of the type. Wallace's were excluded from the *Daily Graphic* Cup Competition under the rule that prevents a competitor holding it two years in succession, a rule, by the way, that was suspended from 1915 until the present year. The judges must have found it exceedingly difficult to decide the fractional points that entitled Mr. Tucker to take the Cup in the presence of the third of the trio of gold medal awards, Mr. Symons-Jeune. It would not have been surprising if the unusual had happened, so far as Chelsea Show is concerned, and a tie had been declared between these two competitors. There was, however, just the little more that is so much, in the clever restraint of planting, the less complex arrangement, and a neater finish in Mr. Tucker's garden that justified the award. A competition so keen is the spice of life to those engaged in it and a fortunate circumstance for the public who thus see each man's work at its best.

From the point of view of the public desiring education it is best to try to draw comparison between these two efforts. Two different limestones were used. One apparently the Westmorland grey rock that seems to be the favourite, since so many competitors use it. The other, a much more difficult stone from the Mendip Hills. Tucker had the advantage in this respect, as his stone is bound to produce a pleasing effect if it is only used in the parallel lines in which it is found and on which it is formed. Nevertheless, this effect can be much enhanced by skilful use. The Cheddar (Mendip) stone, on the other hand, is so diverse in its character and shape that it is difficult to recognise exactly which is "bed" and which is "face." Both competitors took the fullest advantage of the peculiarities of the stone; one in adhering strictly to the obvious lines laid down by nature, the other in freely breaking away from all sense of stratification where his work demanded it. Tucker's effort was simple, just a pretty rock-faced elevation from which issued a tiny spring that collected in a little stream at the base of the rock and meandered away among the broken rocks on the lower level. The treatment in the neighbourhood of the water, both as regards formation and planting, was delightfully cool and green, such slight touches of colour as were introduced being effectively used. The remainder of this little rock garden was planted carefully, with an obvious effort to keep the right plants in the right places, and above all things, not to overplant. It was owing to this fact that the slightly greater success was achieved. To go into details of planting here would be wearisome as it can better be dealt with under another heading, but there was just one point in the planting that was pronouncedly different, and better than Mr. Symons-Jeune's. It was in the background created by a judicious use of suitable evergreens. Such an introduction gives, by suggestion, depth and breadth to the picture, as a whole, and one *feels*, as it were, the Pine belt on this miniature mountain side creeping towards the edge of the little cliff and suggesting greater things beyond the Pines. Mr. Symons-Jeune omitted this suggestion altogether and trusted to the background of deciduous shrubs existing on the bank, which were not sufficiently substantial for his purpose and left a sense of lack of finish about the upper portions of his work that is to be regretted.

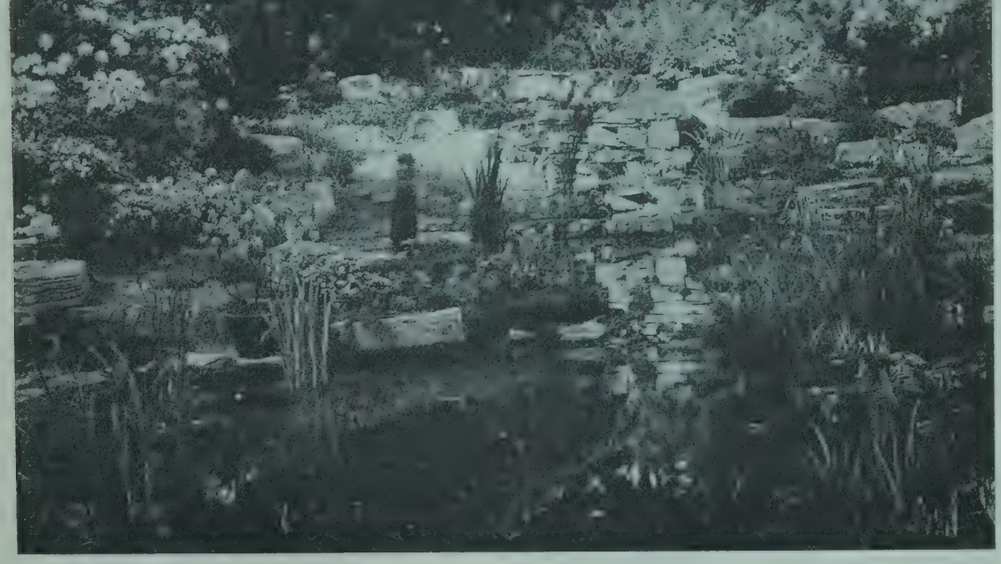
TUCKER'S ROCK GARDEN.

The better the work the more pronounced is any sense of incompleteness about it. The scheme, or one might almost call it the *theme*, in this case was very different. Here was a bit of rugged mountain side, jagged, torn, excoriated by the action of avalanche and torrent; a miniature "burn" hurled its way from ledge to ledge, tearing out a deep channel in its course that terminated in a deep mountain pool. Two points struck me in looking at this picture painted with rock and water. One that, although the conception was good, the viewing point was badly managed, and a dramatic exhibit therefore lost much of its dramatic effect. The stream should have flowed from left to right, and not from right to left. The second was that after putting in some skilful drawing the designer subordinated faithfulness to nature to an effeminate desire for pretty colour combinations. This colour scheming can be carried too far in rock gardening. You do not file off the harsh edges of the stones to get perfect contours, and if the colour is a little harsh and wild it is more in keeping with the spirit of such efforts. What is more, this rock garden was over planted, even for a garden.

I now turn to the third gold medal exhibit in this class, that of Wallace and Co. I need not to all the past [illegible] this time except for the purpose of comparison, but before [illegible]

than was achieved in this instance. The theory on which the scheme was developed was obvious to anyone who has studied the effect of time and water acting on rocks. Standing at the entrance one beheld a still, shallow pool the bed of which was besprinkled with broken rock, evidence of the effect of water on the disintegrating stone, bringing down fragments from the higher levels. Above this, retained by a barrier of crumbling rock forming a picturesque dam, was a broader and deeper pool, starred with mossy rocks just rising above the water level and distributed in picturesque disorder.

It was as if the water had gradually worn its way into the rock bed, clearing for itself a course and leaving here and there a few fragments to indicate its previous boundaries. This effect was more pronounced still the nearer one got to the main rock face at the upper end. In front of this a line of stepping stones, that looked as if the water had just broken through a rock barrier and left them standing, crossed the pool with no sense of artificial introduction; the rock face itself crumbling



WALLACE'S ROCK AND WATER GARDEN.

to decay, where two springs issued from it, mossy with age, scarred and lined by the action of time, and with rugged columnar masses of rock still standing where it was suggested the water had washed the remainder away. The two springs splashed into a clear rocky pool overhung with rock and thence over a miniature cascade into the broader pool below. Aquatic plants and moisture-loving vegetation were used with discretion both in the water and on the banks, one mass of Iris ibirica Emperor presenting a wonderful picture just in front of the lower dam. The planting of the surroundings was effective, a little too much of an "exhibit" perhaps to be quite realistic, but this is always the case at a show. The centre cool and green, the outer lines blazing with colour as though the water had cleared out a valley, and along its course a little above its reaches Azaleas, Maples and Rhododendrons flourished as they would in reality.

The whole effect seemed to spring from a background of Pine wood, and the least that can be said of it was that it was naturally effective and effectively natural. The most need be no more than the remark made by His Majesty the King in passing round: "Wonderful and pretty."

FORMAL GARDENS

I sometimes wonder if the public who visit Chelsea Show ever make the correct distinction between the rock and formal garden exhibits. All sorts of remarks are made, and it must be conceded that some of the formal gardens consist largely of stone; therefore, one hears many people describe a garden developed to a purely geometrical design as "a pretty rock garden." It certainly does not seem to be fully appreciated that there are two distinct classes in these exhibits. It may be as well, therefore, to point out a rock garden is one in which an effort is made to reproduce an example of some fragment of rock scenery as faithfully as circumstances and garden requirements will permit. A formal garden is one which is developed on lines of geometrical design, in which symmetry forms the main *motif*, and ordered regularity is the result.

Undoubtedly the exhibit by Mr. Herbert Jones was the best effort in this direction. The scheme was simple and one that could be adopted in many situations, preferably in close association with a suitable house. The word "suitable" is used as a warning not to attempt to use the material of which the exhibit is composed indiscriminately against a house built of another material with which it is not in harmony. The design consisted of a simple terrace enclosed by a balustrade of stone, in the centre of which an arched niche covered a small pool. Dripping water, Ferns and mosses gave a delightfully cool effect. Below the terrace a rectangular plot was surrounded by paved walks, flower borders and green hedges, the centre being sunk, and the upper level retained by dry stone walls. The whole of the lower level was occupied by a lawn, in the centre of which was a stone well-head of good design. The general effect was quiet and restful, and the planting scheme restrained. In this respect it is perhaps well to say that in adopting the idea for a permanent garden something a little more interesting in the way of planting would be necessary. In considering this design from the point of view of the would-be possessor, it should be remembered that, after all, such an effort is but an *exhibit* and not a garden, a model more or less to scale, and that to attempt to reproduce it faithfully in one's own garden exactly as seen at the Show would be in many cases to court failure. A point that should be fully appreciated is that although the style and workmanship introduced into this exhibit was eminently suitable for the material used, it is not probable that it would be successful if an effort were made to carry it out in other material. The whole scheme was developed to display to the best advantage the uses to which the material could be put, and not to create a type of garden to be slavishly copied by any other stone or brick that might be available.

In Cheal's exhibit, an L shaped space, one arm being backed by a row of trees, required careful treatment to keep any balance in the design. This was very cleverly managed by creating two centres, each linked to the other, arranged so that one arm formed a charming little Rose garden, the other a shady green garden flanked by flower borders, and the whole was enclosed by green hedges. The planting arrangement left much to be desired and should not be adopted for the permanent garden, as a whole. Rhododendrons on one side and herbaceous plants on the other would give no effective balance in a finished scheme. It must, however, be remembered that this was an exhibit of design first. In drawing a comparison between these two exhibits, one can be commended as an example of how to use material, the other of how to use design.

A third exhibit by another firm in the Show was less successful. This consisted of a ponderous structure formed by a massive wall pierced by an archway, or rather an opening that at the most could be called neither architecturally correct nor constructionally sound. This led to an enclosed garden of little interest except in the curiosity of its design. Straining for effect is no way to get a good garden, and the only good thing that can be said for this effort is that it was original. There was little real garden charm about it, even Violas planted in crevices between crazy paving served only to emphasise the poverty of the attempt to produce startling effects at the expense of all that beauty the good garden affords.

Carter's little garden certainly afforded the three essentials for success: Design carefully worked out; colour lavishly used, even if not in all cases with quite the material one would wish to see; and cool relief in the form of green turf and shrubs. A little too much ornament perhaps and a little too much effort in using it, but nevertheless quite a pleasing picture if introduced as the centre of a much larger scheme. For the contracted area it was a little too full of detail, but that is one of the disadvantages of shows generally. The exhibits must be regarded as fragments, not as a complete whole. Here a rectangular plot was divided by cross paths leading to a circular centre. Each corner plot was fenced round with trim Box hedges and treated as a quiet lawn. If this idea is adopted for garden purposes some provision would need to be made to get a lawn mower on to the lawn without lifting it over the hedge, a point overlooked in the exhibit. Surrounding the centre circle were stone columns rising from raised borders in which were planted climbers. These encircled a very fine old lead cistern converted to use as a fountain, a very pleasing garden ornament. In the centre of each corner grass plot was a large planted vase of terra-cotta.

Dixon's little garden, on the lines of several previous exhibits, was very neatly finished, and as a design would appeal to many people. One is inclined to regret that the same design should be reproduced at successive Shows, as were the whole Show to be developed on this principle it would soon cease to interest.

HARDY FLOWERS

In looking through a large comprehensive group of hardy flowers, such as that set up by Messrs. Barr and Sons, Covent Garden, London, W.C., one is able to form a fairly good conception of what could be accomplished in one's own garden. This firm is renowned for its devotion to the development of newer forms of old fashioned hardy flowers and their group included many useful and beautiful subjects. Lupinus polyphyllus was shown in variety, the newer variety, Zulu, a deep violet purple sort, is especially noteworthy; also The Bride, Perle Rose, albus, Blue Cloud, Captivation and Lady Diana—the two latter charming bicolors—all worthy of inclusion for May displays in the hardy border. Single Pyrethrums were well done, the better sorts being James Kelway, richest crimson scarlet, a gem; Dorothy Kelway, rich rose; Wagstaff, a large rosy carmine, and Mrs. Bateman Brown. All were great and would be effective in any border. Trollius, Oriental Poppies, Geums—G. Orange Queen is a useful plant—and a host of smaller alpines and other plants completed what was a fine effort.

A circular group, largely composed of double and single flowered Pyrethrums from Messrs. R. H. Bath, Limited, Wisbech, proved an attraction to many visitors. Of the double flowered sorts the better varieties were La Belle Blonde, blush white; Mme. Munier, a beautiful blush sort of good form; Madaline, blush pink, very fine; Virgo, white, with yellowish centre; Senateur, a bright carmine tipped white sort, very striking, and Ne Plus Ultra, another good blush variety. Of the singles, excellent examples were seen in James Kelway, crimson scarlet; Comet, carmine crimson; Ægeon, rosy carmine, and Agnes Mary Kelway, clear rose and all were seen in fine form. Pæonies, Trollius and Delphiniums were all most attractive. A border in May with these subjects would indeed be a "thing of beauty."

A representative display of hardy flowers, including many subjects in first class condition, was made by Messrs. Bunyard, Maidstone. Anchusa Dropmore variety and Eremurus himalaicus were well shown.

When running through Messrs. Blackmore and Langdon's collection of Delphiniums one was struck with the beauty and stateliness of these extremely beautiful flowers. Charming diversity of form and colour characterised the display, and the names of a few of the more striking will no doubt be useful to readers. Lavanda is a deep lavender semi-double sort of much beauty; Lizzie van Veen, pale blue single, tinted mauve; Walter F. Ware, large semi-double, deep blue with white centre; Le Danube, a large semi-double lavender mauve with white centre; King Bladud, a deep mauve blue tipped white; the variety Lord Lansdowne is a striking true blue single of considerable merit; and General Sir D. Haig is one of the very finest Delphiniums extant: the colour may be described as deep purplish blue, the flowers very large and the spikes enormous. Very beautiful indeed was the variety Millicent Blackmore: it is difficult to conceive anything better. Large semi-double and a tall stately spike with blossoms of mauve blue stamp it as a very fine thing indeed. The list may well conclude with a lovely soft mauve lavender sort named Glory; this is a semi-double of the finest possible quality.

Where an exhibit is set up by Messrs. Wallace one is assured of a display of the best, and certainly in the present instance we were not disappointed. Their splendid display of hardy flowers occupied two corners of a raised border which was made secure by a raised stone coping. The choicer subjects in this pleasing group were Eremuri in charming variety; Heuchera micrantha, a coral pink form and very pretty; Pyrethrums; Verbascums; Oriental Poppies in variety, and a beautiful lot of the new Erigeron Elsie, a pretty pink form of this subject. Geum Mrs. Bradshaw well maintained its reputation as being one of the best of the hardy flowers, and dwarf early-flowering Gladioli made a picture valuable at this season.

Messrs. Harkness and Sons, Bedale, Yorks, always make an interesting display of hardy flowers, and this year a circular group contained many interesting subjects. Lupinus polyphyllus in diverse variety were freely shown, also Giant Yellow Iceland Poppies, as well as a white and a very handsome orange form of these useful plants; these latter were very striking and were a first-rate strain.

One of the best efforts in making a display of hardy flowers of a representative character was that made by Messrs. Bees, Limited, Liverpool. Lilium croceum, Delphinium Blue Bees, Beesian Columbine in really beautiful variety, Flag Irises, single and double Pyrethrums, Verbascums, Primulas, Thrifts, and a large and beautiful assortment of alpines and other rock plants all combined to make a most attractive group that was besieged until the Show closed. The arrangement of this fine display left nothing to be desired.

A novel form of grouping was carried out by Messrs. J. C. Allgrove, Langley, Slough. In addition to a pretty series of Flag and other Irises, there were grand examples of Eremurus robustus gigantea, E. r. albus and E. robustus, all of which created a fine, stately effect. There were also masses of Anchusa italica Opal and A. i. Dropmore Variety, a fine striking blue, Primula pulverulenta in variety and a large number of other equally interesting hardy flowers.

Few men have championed the cause of the hardy flowers more than Mr. Maurice Prichard, Christchurch, Hants, and he well merited the gold medal awarded to his wonderfully diverse display. His Trollius were most interesting, and included such varieties as Trollius europæus superbus, T. Gold Quelle, T. His Majesty, T. Fire Globe and several other varieties. Aquilegia cœrulea was a plant of fine form. Pæonia lobata is a dainty single Pæony. There were also masses of Anchusa Dropmore Variety, Oriental Poppies in really pleasing variety, and a wonderful array of plants much out of the ordinary. This exhibitor's collection of alpine and rock plants contained a wealth of the better subjects utilised for these purposes.

A noteworthy triangular group embracing hardy flowers of varying character all in good form was arranged by Messrs. John Waterer, Sons and Crisp, Limited, Twyford. The Lupines were excellent, especially the new variety Lupinus polyphyllus Sunshine. This is a yellow-flowered sort of considerable beauty that every lover of the hardy flower garden will want to possess. Flag Irises in charmingly diverse colours were represented in splendid fresh condition, and there were also good examples of single and double-flowered Pyrethrums. Primula japonica hybrids and Anchusa italica, all of which merited attention, completed a very fine exhibit.

Another triangular group of hardy flowers, and of special merit, in which superb examples of the better hardy flowering plants predominated came from Messrs. Artindale and Son, Sheffield. This firm invariably does well in this department, and again their distinguished position was well maintained. Magnificent spikes of Eremuri formed the centre of this group, Eremurus himalaicus being the variety shown. Interspersed among them were splendid examples of Astilbe Ceres and A. Venus, both good pink-coloured sorts. There was also a wealth of other good things such as Lupinus Lioba, a pink sort; L. Iris purple blue; L. roseus; L. Minerva, a blue and white bicolor and others. The Pyrethrums were very fine, notably P. James Kelway, crimson scarlet; P. Mrs. B. Brown, crimson carmine; P. Standard, clear rose; and a grand crimson sort named Comet—a really beautiful series of single-flowered sorts. Double Pyrethrums were best represented by Cleopatra, fawn; Virgo, white, with yellow centre; Argentine, white; White Aster, white; and Mme. Munier, blush pink. As there were also grand examples of Anemone His Excellency, Oriental Poppies, Prunus, Pæonies in variety, Heuchera, and Flag and other Irises, a fairly good idea of the comprehensive character of this fine display may be formed.

A quite bright group arranged on a table by Mr. G. W. Miller, Wisbech, had a goodly number of useful and pretty subjects. Specially noteworthy was Heuchera Tiarelloides, a pink form of this dainty flower which attracted attention. Papaver Princess Ena, a single salmon-coloured sort; also P. Jenny Mawson, a large flower of similar colour. Pyrethrum Queen Mary, a beautiful pink form; Trollius Potter's variety, pale yellow; and Trollius Orange Princess, orange yellow, were all good. There were many other good things, but all far too crowded to do them justice.

Another table group, rather less crowded than the last mentioned, exhibited many charming subjects. This came from Messrs. B. Latham, Limited, Southampton, and included many choice plants, such as Incarvillea Delavayi, the new Verbascum hybridum B. Ladhams, Heuchera Pink Pearl, a very pleasing bright flesh colour; Mimulus cupreus, and M. luteus duplex, the latter a fine yellow sort; Erigeron Elsie, Veronica rupestris alba, Violas, Pink Oriental Poppies, and a great variety of other invaluable hardy flowers.

Oriental Poppies of fine quality raised from seed, and of which seed was offered for sale, were shown by Messrs. Godfrey and Son, Exmouth, Devon. The flowers were very large and of the finest quality. There were also splendid examples of Seedling Lupinus polyphyllus showing glorious spikes of blossom in wonderfully varied colourings. This firm's new Viola, named Royalty, is a small, free-flowering deep blue rayed sort of promise.

One of the most interesting table groups of comparatively small size but containing some of the daintiest and best plants in the show, came from Dr. MacWatt, Duns, Scotland. The fact that this display gained a silver-gilt flora medal proves most conclusively the great worth of its contents. Each plant had a history, and could that be unfolded, interest in the display would be much enhanced. The Primula family was exclusively represented in this display and it included such specimens as Primula sikkimensis, P. Veitchii (improved), a beautiful clear rose-coloured sort; P. Conspersa, P. rufa, P. Lissadel Hybrid (Ailin Aroon), P. Auricula in alpine and show forms; P. pulverulenta, and many other dainty plants such as P. tibetica, P. deusa, P. geraniifolia P. yunnanensis and many others far too numerous to mention. Dr. MacWatt says this is the last exhibit he will make down South, but it is hoped he will alter his mind, as these displays of his are so educational and helpful.

A group exclusively composed of Lupinus polyphyllus represented all the newer and better varieties of this useful early summer-flowering plant. Among the more noteworthy sorts was the new Pink Pearl, which received an award of merit. This is a lovely soft pink flower and beautifully clean. Others were Downer's Delight, terra-cotta and crimson bicolor; May Princess, deep violet; Tunic, blush; May Queen, another violet sort; and Favourite, a blue and white bicolor. Although small, this was a valuable

exhibit. It was made by G. R. Downer, Chichester.

A long table group from Messrs. Bowell and Skarratt, Cheltenham, had, in addition to alpine and rock garden plants, a number of useful hardy flowers, such as Papaver Mrs. Perry, salmon; Ranunculus acris plena; Papaver Prince of Orange, scarlet, and other useful subjects.

A beautiful table group of large size came from Messrs. Bakers, Limited, Wolverhampton. This contained a large number of striking hardy flowers, included among which were Sunbeam Iceland Poppies, very large and gorgeous in their colours; Trollius europæus, a splendid yellow; Geum Lady Strathedon, a yellow companion to Mrs. Bradshaw, scarlet, which was also in evidence; Trollius Orange Globe is a fine orange coloured example of these flowers. Centaurea montana rosea was one of the best of these plants; as the name implies

A BEAUTIFUL BROOM SHOWN AT CHELSEA (CYTISUS DALLIMOREI).

the colour is rose. Thermopsis fabacea was also noticeable. Cytisus Dallimorei should prove a valuable addition to these useful plants; it is a rose-coloured bicolor.

A remarkably handsome group of hardy flowers was shown by Messrs. G. and A. Clark, Limited, Dover. The Spiræas were splendid, especially Astilbe Ceres, A. Venus and A. Vesta, so too were the Trollius, which were shown in charming variety. Geum Mrs. W. J. Bradshaw was very finely shown, and Pyrethrum Margaret Moore (pink), James Kelway, John Malcolm (pink), and Hon. Stanley (crimson carmine). Oriental Poppies, Flag Irises and a great wealth of other glorious subjects

A new plant shown by Messrs. Thos. B. Grove and Sons, Sutton Coldfield, calls for attention. This is a new hybrid Geum named Orangeman. It is not so double as Mrs. Bradshaw, but is quite as large and the colour is a shade of light orange.

We could not well omit the fine, bold display of hardy flowers staged by Mr. W. Wells, Junior, Merstham. Here were to be seen excellent examples of Pyrethrum (double) Queen Mary, a grand blush pink sort; P. White Aster, one of the best double whites, and of single-flowered Pyrethrums he showed Mrs. B. Brown, a large carmine crimson sort; W. Kelway, pink, and A. M. Kelway, clear rose. We must not omit to mention Lupinus Mœrheimii, a pale pink bicolor, and the beautiful Centaurea montana rosea.

Antirrhinums (Snapdragon) in three distinct types, tall, intermediate and Tom Thumb, were charmingly displayed by Messrs. Dobbie and Co., Limited, Edinburgh. This firm has done much to improve and popularise these flowers. Among the varieties particularly noteworthy were Nobile, white flower with lips suffused red; Mauve Queen, a variety of light salmon tint with light yellow lips; and Fiery Belt, a striking dark salmon-coloured sort. Mauve Queen, as its name denotes, is a variety of considerable beauty, the colour being mauve pink, which should create a pleasing result when planted *en masse*.

The foregoing are just a few of the more noteworthy sorts. The whole exhibit seemed to show the great advance made in these flowers during the past few years, and this firm has succeeded in raising new varieties of many diverse colourings.

The lover of the Snapdragon in the garden can now obtain almost any colour in these flowers—other than blue—ranging in height from a few inches to two and a half to three feet.

Another exhibitor, who deserves special mention for the pleasingly varied character of the display was Messrs. W. H. Simpson and Sons, Birmingham. Their group represented plants some six or eight inches in height, others of medium height varying from one foot to eighteen inches, and tall sorts two to two and a half feet in height. Of the taller sorts that merit attention were Carmine King, glowing carmine with white tube; and Esmé, one of the tallest, a delicate pink with a white tube. Of those of medium height we were much struck with a variety having deep apricot and old gold flowers, known by the name of Morning Glow Improved. Another good sort in this section was Roseum superbum, about twenty inches high and of a soft rose pink colour. One might enumerate many other sorts, but the foregoing will suffice.

ORCHIDS

The élite of the floral world are valuable decorative plants that remain beautiful for a long time.

Time was—and it does not seem long ago—when plants grown under glass were the dominant feature of the Royal Horticultural Society's great Spring Shows, and of these the most important were Orchids. The swing of the pendulum of fashion's floral changes threatened to depose pot plants almost entirely. The dictates of fashion will render almost anything one could name popular—for a time. But utility is the real arbiter. Any useless thing, no matter how much it may be the rage of the moment, is, inevitably, short-lived. We quickly tire of the useless.

Orchids have their value, so they will be grown as long as gardening continues, and that is for all time. But even though Orchids generally are for the relatively few and not the many, it was not at all surprising to find that the wonderful exhibits of these flowers were thronged throughout the whole of the three live-long days of the Show. For even though everyone's circumstances do not permit Orchid cultivation, yet we all admire beautiful flowers with understanding.

The group arranged with such skill by Baron Schrœder's gardener was an object-lesson in the great colour values of rosy mauve and the palest blush. There the tones of the various Lælio-Cattleyas were exquisitely blended, and everyone must have wished to take home the magnificent plants of the variety eudora. With rare art the central place was given to superb plants of the glowing orange and velvety crimson maroon Anaconda—a quite distinct variety—which led the eye on again to many more of the delicious rosy mauves.

Next door, as one might say, Sir George Holford had a large basket of Lælio-Cattleya Imperateur Reginæ, a wonderful blending of the palest mauve and velvety purple, just the thing to stand on a polished Sheraton table where it would satisfy the eye and senses for many a day, for there is nothing of the "here to-day and gone to-morrow" about these Orchids—which, by the way, is of course the secret of their continuance in the world of gardens. One plant in Sir George's amazing collection gave most of us quite a shock. It was so awfully sinister. The hooded, deep green petals and fringed lip of Lycaste locusta at first sent a cold shiver down one's spine, then was realised the weird beauty of it.

In many ways Sir Jeremiah Colman's Orchids were the ideal for the large private garden. His exhibit contained so many different types and seemed to aim at showing what a great variety of beautiful sorts may be had in flower at one time, while it showed particularly how fascinating the Pansy-faced Miltonias are.

As smaller collections the groups from Mr. J. J. Joicey, Dr. Miguel Lacroze and Mr. E. R. Aston were equally ideal, and the delightful association of the cool, graceful Maidenhair Ferns with beautiful Orchids by Mr. Pantia Ralli was the most artistic and successful of them all.

The large trade groups were wonderfully glorious and gorgeous. The old time method of arranging show Orchids in steep, stiff banks is one of the things we have outgrown, and if revived would be received with cold, contemptuous silence; for at Chelsea this year even more than before we have been shown how delightfully graceful Orchid groups can be. The introduction of feathery Palms, cool Ferns, such tropical bright-foliaged plants as Crotons and Phyllanthus, with little pillars of Jacaranda were all in harmony and served to enhance the beauty and value of the Orchids. The best effort in this respect was by Cypher, who has long been known at the large provincial exhibitions as a past-master in the art of arranging show groups. Of his many Orchids Anguloa Clowesii, bearing flowers like golden cradles, and Masdevallia splendens, which may be likened to small Anthuriums divided into twin vermilion spathes, were the most fascinating.

At the opposite side of the entrance to the big tent Charlesworth was wonderful, the excellence of the quantities of Orchids and their delightful arrangement must have charmed everyone. The corner bank of Odontoglossum crispum xanthotes was a perfect dream of graceful sprays of purest white and pale yellow. This, flanked by rosy-orange Odontiodas on the one side and rich purple shades of Lælias and Lælio-Cattleyas on the other was a memorable triumph. Beautiful Miltonias, in generous quantity, over which the golden Butterfly Orchids that so enchanted the King were poised, will also live in our minds for many a day.

Armstrong and Brown also showed that, in the right hands, Orchids could be made things of joy and beauty. The large centrepiece of Odontiodas and Odontoglossums, Orchids of similar structure, but baffling variable shades, was exceedingly beautiful. Another colour scheme, the gracefully arched spikes of Odontoglossums, rising above masses of Lælio-Cattleyas of all the rosy-purples imaginable, also stirred one.

The Brothers McBean evidently possess the light hand and artistic eye so essential in flower arrangement. Their little Pillars of Orchids and Maidenhair Fern, of the many features, deserve special mention.

The extraordinarily wonderful Brassavolas intrigued many visitors by their size, bold poise and gracefully fringed lips. Many of these and the hybrids with Cattleyas, which have given ultra colours, were prominent in Stuart Low's group, which also contained splendid golden Dendrobiums.

The seekers after suitable varieties for any glasshouse temperature could find them in those world-famed collections. Orchids suitable for growing in a cool greenhouse with other plants were noted in Sander's group. There were Odontoglossums such as crispum and grande, the brilliant Odontiodas Sanderæ and Bradshawiæ. Cypripediums of many kinds, particularly the Harefield Hall variety of insigne and Cymbidum Alexandræ. For the warmer houses were Cattleya labiata, Lælia purpurata, Oncidium spathacelatum and Cypripedium colossum. While in the stove house Vanda suavis, Oncidium Papilio, the graceful butterfly Orchid, Dendrobium nobile, many Lælio-cattleyas and Thunias would be quite at home.

STOVE AND GREENHOUSE PLANTS

I was unable to complete in time for last week's issue my comments on what was perhaps the most comprehensive section of the Chelsea Show, but now conclude them. New and choice plants are invariably shown by Messrs. Sander et Fils, Bruges. In this connection there were many plants of promise, and lovers of plants of more congenial climes will be pleased to learn the names of a few additional subjects for their warmer houses.

Cocos Yatay is a somewhat glaucus-looking Palm that may appeal to some, and so, too, is Cocos campestris. This is a plant of fine branching habit and should be welcomed. Of Macrozamia Miquielii we can speak of as a plant with a future. Of Dracæna lentiginosa var. latifrons we cannot speak too highly. It is a dark foliaged plant that will be popular some day. These are just a few of the good things of which we would like to write more. A pretty table group of dwarf, freely flowered Schizanthuses, embracing a most varied series of markings and of pleasing form, was shown by Mr. Alfred Dawkins, Chelsea. Here were to be seen plants that could be grown quite easily by anyone with a cool greenhouse, and few plants yield more satisfactory results.

It is quite impossible to remove from one's mind the wonderful bank of Star Cinerarias, as well as the grandiflora type, so beautifully represented in a series of large groups of various subjects by Messrs. Webb and Sons, Stourbridge. Variations of colour and form add materially to the artistic worth of the stellata form, and the large flowers and good forms of the grandiflora strain, when contrasted with the others, make a grand display. Nor must we omit to mention this firm's type of the giant-flowered herbaceous Calceolarias. They were, indeed, superb, and diversity of colouring left nothing to be desired. The Schizanthuses from this firm were of a high order of merit; the flowers were large, the plants freely flowered, and in regard to colouring they were charmingly varied. Smaller groups of such subjects as tuberous Begonias, Petunias and Primula obconica, completed another of this firm's great efforts.

The conclusions we arrived at in regard to the under this head are to the effect that although a vast improvement has been made in the setting up of the various subjects, so that their beauty and usefulness were often seen at their best, in our opinion there is considerable room for improvement. There were glaring instances of distinct overcrowding, so that the mere novice, or anyone unfamiliar with the nature of the various plants, could not determine their true character. As we have repeated in our remarks on the numerous groups that came under our view, there were masses of some plants that would have been seen to greater advantage had the groups been arranged in less formal manner. As an instance, the various exhibits of the free-flowering, branching, stellata forms of the Cineraria were shown in dense masses. Had they been set up so that their graceful character could be clearly seen, their real value would have been better appreciated by many, and the exhibition improved thereby. Some of the table groups were also great offenders in this respect. We much appreciated the breaking away from the old stereotyped gangways with groups on either side. The varied character of the many groups arranged, as they were, to make the exhibition as a whole an attraction, was distinctly successful. It was only when some offenders were permitted to set up backgrounds for their stands or groups that the pleasant vistas were interfered with, and it is to be hoped that at future shows these erections, which spoil the picture, will be eliminated. The naming of varieties, on the whole, was satisfactory, but there were several instances where interesting plants, were unnamed.

NEW AND RARE PLANTS

A great many novelties were placed before the Floral Committee in a special tent, but it must be admitted that many should never have been brought there. The Committee gave one first-class certificate and several awards of merit. The Mollis-like Azaleas, which appeared to be hybrids of Mollis and sinensis, were just a few days too late—on Monday they were worthy of award.

Primula helodoxa.—This beautiful deep yellow Primula received an award of merit in 1916 and now receives the higher award of a first-class certificate. Three very large vases of bloom, many bearing eight tiers of flowers, were shown by Mr. Lionel de Rothschild.

The following received awards of merit:

Dracæna Deremensis Bansei.—A handsome greenhouse variety eminently suitable for house decoration. It is a compact plant, well furnished with green and white leaves. Shown by Mr. C. F. Banse.

Iris Banzai.—This handsome Iris is of Dutch origin and is really an improved Spanish Iris. The plum coloured standards above yellow falls which have golden centres make a striking flower. Shown by Mr. Chapman.

Rose Florence.—One of the most beautiful Roses that have been shown for some time and quite the Rose of the Show. In form it is like Maman Cochet, while the colour is a glowing pink. It seems to be an all-purposes Rose. Shown by Messrs. William Paul and Son

Rhus cotinus purpureus.—The foliage is of much deeper colour—quite a ruddy purple—than in the well known type shrub. It will be valuable for colour grouping in the shrubbery. Shown by Mr. R. C. Notcutt.

Rhododendron Hugo de Vries.—This magnificent variety is a cross between Pink Pearl and Doncaster which greatly favours the former. The chief difference lies in the brownish spots on the upper petals. Shown by Messrs. Wallace and Co.

Azalea Kurume Tsuta Momii.—A charming clear salmon Japanese Azalea of Hose-in-Hose type.

A. K. Shin Sei Bai.—A dainty white variety in which the inner corolla is so shortened as to appear like a secondary row of petals.

A. K. Suizohi.—The flowers are larger than those of the two foregoing and are of transparent pinkish white colour, which is relieved by soft brown spots. All three varieties were shown by Messrs. J. Piper and Son.

Lupinus polyphyllus Sunshine.—A handsome spike of fragrant pale primrose flowers. Shown by Messrs. Waterer, Sons and Crisp.

L. p. Pink Pearl.—This rich rose pink variety is eminently suitable for massing in the border.

THE GLORY OF THE MARSH PRIMROSE (PRIMULA HELODOXA).
First-class Certificate.

L. p. Tunic.—A larger spike of pale pink flowers, which are rosier at first. Both of these beautiful Lupins were shown by Mr. J. G. Downer.

Carnation Bookham Scarlet.—A large, perfectly formed rich scarlet Border variety.

C. Bookham Salmon.—A broad, smooth petalled, soft salmon pink flower.

C. Kelso.—The buff shade is prettily splashed with heliotrope. These three Border Carnations were shown by Mr. J. Douglas.

C. Tarzan.—A perfectly shaped Perpetual-flowering Carnation of rich scarlet colour The edges of the petals are delicately fringed. Shown by Mr. C. Englemann.

Lithospermum prostratum album.—The value of this rock garden plant lies in its being a white variety Shown by Mr. S. Morris.

Aster alpinus Wargrave Variety.—Quite the finest of the alpine Starworts; the colour is rich rosy mauve Shown by Messrs. Waterer Sons and Crisp.

HORTICULTURAL APPLIANCES

Though in surroundings less winning to the senses, a walk down the main avenues at Chelsea was just as instructive and interesting as a perambulatory tour of the great marquees. Here, in place of floral incense, the nostrils are engaged with the pungence of chemical manures, new paint and pest sprays, while the eye takes in with just a *soupcon* of despair the multitudinous reminders of malign insects and vermin, and necessary and some unnecessary things to get for the garden, or merely to covet if the purse be thin. Memory goes back to heavy and perspiring hours with the mower trying to get the lawn under control as one examines this automatic thing called Atco, shown by Messrs. William Wood and Son, Limited, of Taplow, which stolidly gets through all the exertion for you with hardly more personal trouble and less anxiety than steering a motor cycle along a level road; for in the quiet spaces of the croquet and tennis lawns there are no erratic dogs or cats nor errant children to be wary of.

Messrs. Ransome's of Ipswich also had an attractive display of labour-saving mowers, and a natty little hand-propelled machine by the Nene Engineering Company of Peterborough, very light and easy to handle, seemed worthy of trial. In the same type Messrs. Green and Son, Limited, also cater for the small garden with their New Century mower, while their large motor machine, taking a 42in. sweep would make short work of even golf greens.

The best cut lawn, however, will still look unsatisfactory if Daisies, Plantains and Dandelions mar its surface, but here again remedies are at hand in the shape of Eclipse or Fowler's lawn sand, or there is the more drastic method of having the noxious things out root and all. Mr. Leaver of Tunbridge Wells has devised a clever but perfectly simple weed extractor for this purpose, but as it brings up a solid circle of soil with every weed, means must be taken to fill up the resulting holes. If one had access to a reserve piece of good turf this tool would be invaluable, as it would cut out circles of turf the exact size of the holes and the lawn-repairing process could go on as the weed disappeared. A weedless lawn, trimly cut, still needs irrigation during dry spells if its verdant complexion is to be kept in beauty, and an efficient means to that end is the Automatic Utilities Company's method of supplying a mist spray over a wide area by means of finely perforated pipe-lines. Or there is Messrs. Purser's "Skattra," an attachment to the ordinary garden hose, which will easily throw a fine spray over a space of 35ft. or 40ft., and being mounted on two small wheels is readily moved about as required. Water distributors carry the mind by easy stages to syringes and spray machines, a selection of which can be made from the catalogues of Abol Limited, the Four Oaks Company or the Ubel Sprayer Company, while the Holder-Harriden Sprayers, made of acid-resisting metal alloy, should also be borne in mind.

It will benefit readers but little merely to detail even the principal of the numberless adjuncts to garden craft shown at Chelsea, but a reminder of a few really practical helps will not be out of place. There is, for instance, that modern tool, the wheeled hoe, a very present help in many times of need. The Planet Junior No. 11 is typical of these all-utility instruments. It can be fitted as a hoe, a shallow plough, a rake or as a cultivator at will, and its action is easy and comfortable in almost all soils. Mr. John Pinches of Camberwell is another gardener's friend with his world renowned Acme labels, standard Rose tree trainers, bloom shades and many etceteras dear to the tidy and the thorough.

What a simple matter it would be to protect rows of seedlings, or, say, your Strawberry plants, from birds and the weather if you could cover them in some easily managed way with glass. This the Cloche Clip Company of Guildford makes possible by their system of clipping together two sheets of glass tent-wise so that continuous lines of them can be placed in position and removed at the expenditure of practically no time or trouble. One noted that needful thing for glass houses, a fumigating outfit, and Messrs. Corry and Co.'s Lethorion Cone is a highly effective method of exterminating green fly and other vaxatious tormentors of greenhouse plants. And for watering, the Hawes patent cans were shown in an infinite variety of designs, particularly useful are those constructed to avoid drip from falling on flower or foliage. For pleasant half hours in the garden, or pleasant hours for that matter, if one feels tired or lazy, a useful invention was shown by Messrs. Abbott Brothers of Southall. It is called Tea-in-the-Garden trays, which become tables by the mere pressure of the thumbs on the handle. These trays must be a delight to the ladies and their maids who serve. The amateur gardener can hardly do without a good ladder, and Messrs. Drew, Clark and Co. pointed out some undeniable virtues in their well-made "Diamond" telescopic extension pattern ranging in length from 14ft. to 44ft. when open and closing in to 8ft. and 24ft. respectively.

LIST OF AWARDS

Sherwood Cup for the best exhibit in the Show: Messrs. Sutton and Sons, for florists' flowers.

"Daily Graphic" Challenge Cup for rock garden: R. Tucker.

Orchid Challenge Cup for amateurs: J. J. Joicey, Esq. (gardener, J. Mackay); silver-gilt flora medal, Dr. Miguel Lacroze (gardener, M. Taylor); silver-gilt Banksian medal, E. R. Ashton, Esq. (gardener, H. Varnum).

AWARDS FOR ORCHIDS.

Gold Medal: Armstrong and Brown, Charlesworth and Co., J. and A. McBean, Sir Jeremiah Colman, Bart. (gardener, J. Collier), Baron Bruno Schroeder (gardener, J. C. Shill).

Lindley Medal: Baron Bruno Schroeder (gardener, J. C. Shill).

Silver-gilt Flora Medal: Stuart Low and Co., Sanders, Pantia Ralli, Esq. (gardener, S. Farnes).

Silver-gilt Banksian Medal: J. Cypher and Sons, Flory and Black, Mansell and Hatcher.

Silver Flora Medal: H. Dixon.

EXHIBITS IN THE OPEN AIR.

Gold Medal: Herbert Jones, formal garden; B. H. B. Symons-Jeune, rock garden; R. Tucker, rock garden; R. Wallace and Co., rock and water garden.

Silver-gilt Flora Medal: Clarence Elliott, rock garden; Pulham and Sons, rock garden; Waterer, Sons and Crisp, rock garden; G. G. Whitelegg and Co., rock garden; J. Cheal and Sons, formal garden; J. MacDonald, grasses.

Silver-gilt Grenfell Medal: J. Carter and Co., formal garden.

Silver-gilt Banksian Medal: Kent and Brydon, rock garden; J. Waterer, Sons and Crisp, trees, shrubs and topiary.

Silver Flora Medal: R. Neal and Son, formal garden; W. Cutbush and Son, topiary and shrubs; J. Piper and Son, topiary and Japanese trees.

Silver Grenfell Medal: J. Cheal and Sons, clipped trees; L. R. Russell, flowering shrubs.

Silver Banksian Medal: W. H. Gaze and Sons, rock garden; E. Dixon, formal garden; Fromow and Sons, Japanese Maples; Maytham Gardens, herbaceous border.

EXHIBITS IN THE TENTS.

Gold Medals: Allwood Brothers, Carnations; J. Carter and Co., flowering plants; R. and G. Cuthbert, flowering and ornamental shrubs; A. Dickson and Sons, Sweet Peas; Dobbie and Co., Sweet Peas; Hon. Vicary Gibbs (gardener, E. Beckett), vegetables; G. Paul and Son, Roses; Amos Perry, Irises and Ferns; M. Prichard, herbaceous; Rivers and Son, fruit trees in pots; L. R. Russell, stove plants; Sutton and Sons, vegetables; R. Wallace and Co., herbaceous plants; J. Waterer, Sons and Crisp, Rhododendrons and Azaleas; Sutton and Sons, florists' flowers.

Silver Lindley Medal: The Hon. Vicary Gibbs, vegetables.

Silver Knightian Medal: Laxton Brothers, Strawberries.

Silver-Gilt Flora Medal: J. C. Allgrove, hardy flowers; Artindale and Son, herbaceous and Eremurus; Barr and Sons, herbaceous; Bee's, Limited, herbaceous, etc.; Blackmore and Langdon, Begonias and Delphiniums; G. Bunyard and Co., Irises; Ben Cant and Sons, Roses; Cheal and Sons, flowering trees and shrubs; Clarence Elliott, alpines; C. Englemann, Carnations; Elisha J. Hicks, Roses; G. Jackman and Sons, Clematis; Dr. John MacWatt, Primulas; R. C. Notcutt, flowering shrubs; W. Paul and Son, Roses; J. Peed and Son, Caladiums, Gloxinias, etc.; M. Prichard, alpines; Miss E. Rohde and Mrs. Grieve, herb garden; C. Turner, Roses.

Silver-Gilt Grenfell Medal: Ryder and Sons, flowering shrubs.

Silver Gilt Banksian Medal.—Barr and Sons, Iris; G. and A. Clark, herbaceous; W. Cutbush and Son, Roses; King's Acre Nurseries, fruit trees; B. Ladhams, Limited, hardy flowers; Laxton Brothers, Strawberries; G. W. Miller, herbaceous; G. Reuthe, alpines.

Silver Flora Medal.—R. Bolton, Sweet Peas; G. Bunyard and Co., herbaceous; Sir William Cain (gardener, C. Moore), Carnations; Carter Page and Co., flowering plants; A. Dawkins, Schizanthus; Dobbie and Co., Antirrhinums; Donard Nursery Co., new and rare shrubs; J. Douglas, Carnations; Godfrey and Son, flowering plants; Maxwell and Beale, herbaceous; J. Piper and Son, Clematis; R. Prichard, alpines; G. Reuthe, flowering shrubs; W. H. Rogers and Son, alpines; L. R. Russell, stove plants; Sanders, stove plants; J. Stevenson, Sweet Peas; Stuart Low and Co., Carnations; Waterer, Sons and Crisp, herbaceous; E. Webb and Sons, flowering plants; W. Wells, Junior, herbaceous.

Silver Grenfell Medal.—Bakers, Limited, herbaceous; Bowell and Skarratt, herbaceous; Reginald J. Cass, Pelargoniums, etc.; Cheal and Sons, alpines; H. Clarke, Violas; W. Cutbush and Son, Carnations; Dobbie and Co., Tulips; H. N. Ellison, Cacti, Ferns, etc.; Fletcher Brothers, Rhododendrons and Conifers; C. H. Herbert, Pinks; Hugh Mann, Hydrangeas; Maxwell and Beale, alpines; J. Piper and Son, alpines; George Prince, Roses; Stuart Low and Co., Australian plants; R. Tucker and Son, alpines; Yokohama Nursery Co., Japanese trees and gardens.

Silver Banksian Medal.—R. H. Bath, Limited, flowering plants; E. H. Causer, flowering plants and ferns; J. Forbes (Hawick), Pansies, Violas, Stocks, Statice; Harkness and Sons, herbaceous; K. Luxford and Co., Carnations; Rich and Co., hardy flowers; L. R. Russell, Amaryllis; Ryder and Son, Limited, Iris; Storrie and Storrie, Cinerarias; G. G. Whitelegg and Co., Irises; Aubrey F. Wootton, Esq., K.C. (gardener, W. Lamson), Pelargoniums.

CORRESPONDENCE

SOWING WALLFLOWERS.

I HAVE read "T. W. B.'s" hints on how to obtain the best results from Wallflowers with considerable interest. We find that the middle to the end of June is the best time to sow them in this district, not later or the plants do not get large enough. We grow the good old sorts, Blood Red and Belvoir Castle, and have also had, among others, Ruby Gem, Fire King, Fairy Queen, Eastern Queen, Cloth of Gold and Scarlet King. We consider all these varieties excellent for spring bedding; and Polyanthus or Forget-me-nots, which we also sow about now, can be planted in the beds in front of the Wallflowers and look well. Gardeners are not always successful in raising good plants of Wallflowers, and they put down the failure to late sowing. But experience shows that this alone is not responsible for failure; you can sow your Wallflowers in March and still have bad plants for October planting, and you can also sow in June, or even in July, and with care get splendid plants by the autumn. It is advisable to sow in a frame in shallow drills and keep well watered. They must not be long in the seed-bed, and as soon as large enough to handle they should be pricked out, 3ins. to 4ins. apart, in sunny reserve beds. Water well, and be sure in the early stages they do not suffer for want of water, for that is what checks their growth. Soot-water is splendid for them, or a very weak solution of nitrate of soda. This encourages them to make quick, yet sturdy growth, which is so much to be desired. The soil for pricking out Wallflowers should be light and friable; they do not get on nearly so well in strong, clayey soils in this early stage. If the soil is heavy, mix some sand and old potting soil in with it, and break up the clay as much as possible.—E. T. ELLIS, *Westwood, Ecclesall, Sheffield.*

HOW A VIEW WAS OBTAINED THROUGH A HIGH HOLLY HEDGE.

VISITING a friend who had taken part of a beautiful old farmhouse on the brow of a hill, I found the extensive view completely shut out by a high Holly hedge at the end of a long

THE VIEW THROUGH THE HEDGE.

garden. As the sitting-room window faced that way, and the proprietor objected to the hedge being shortened or taken away, we carefully examined it to ascertain its possibilities, and finding four upright stems equi-distant, obtained permission to cut a window. The growth of the Holly stems in an upward direction suggested a Gothic form, and after a considerable amount of labour with saw, garden scissors and a sharp clasp knife, not forgetting our thick leather gloves, we evolved the window shown in the illustration, disclosing one of the loveliest views in the county and adding largely to the charm of both garden and sitting room. It is, of course, not always possible to find suitable stems and branches for this particular style, but probably many views might be obtained by means of circular, square or other shapes made in hedges where the view is obscured. The form could only be decided upon by examining the nature of the trees composing it. It often happens that hedges never intended to destroy views are neglected and allowed to grow until the wide prospect hidden is altogether forgotten.—KATE ASHLEY.

WHAT IS A BORDER CARNATION?

FIRST let me assure Mr. Allwood that he has my sincere sympathy in the most unfortunate position he, with certain other Perpetual Carnation firms (always excepting Mr. Englemann), "find themselves." For some years past they have decried the Border Carnation to visitors at the R.H.S. shows and elsewhere as a poor institution, shaky and tottering to its fall, a weakling on no account to be encouraged in the garden and certainly; immeasurably below the Perpetual as a flower for the border. Public opinion having now detected that fallacy, behold these unfortunate firms reduced to the ignominious position of having to purchase large quantities of Border Carnations from all and sundry to supply the rapidly growing demands of their clamorous customers, Messrs. Allwoods alone having to procure thousands yearly for their clientele, who insist on being supplied with the genuine Border Carnation. That, sir, is the best testimonial we Border men need. I cannot imagine what unkind spirit works in the hearts of some men, who find pleasure in decrying one glorious gift of nature for the purpose of bringing into prominence another. Surely there is room for all. The Border Carnation, having weathered the storms of 350 winters, its glorious form and colourings, its seductive and aromatic perfume, will cheer the lives of men and women long after the names of Allwood and Douglas are forgotten as Carnation growers. The Perpetual-Border is not a new thing; quite ten years before Messrs. Allwoods founded their firm, we raised thousands at Edenside, and rightly or wrongly turned them down because we found that the Perpetual blood in the strain caused the plants to be soft in constitution and excessively lanky; both unpardonable faults in a Border Carnation. We therefore concentrated our efforts in the direction of the Clove section, and have now a giant strain of stiff, rigid stemmed, non-bursting clove-scented varieties that are unequalled as Border Carnations. And through all we have preserved the form of the Border Carnation, that jealously guarded possession, the external standard of symmetrical perfection so dear to the heart of the old florist and so admired by the thousands of visitors who frequent the large shows of to-day.

Mr. Allwood's observations on the merits of the cult are expressions of opinion to which he is quite entitled, but I must beg of him to allow me most courteously to put him right on a point of fact. He takes warm exception to the action of the National Carnation Society in rejecting his suggestion to admit Perpetual-Borders, etc., into the classes of the Society. I wonder what the stewards of the Jockey Club would say if he entered his she-mule for the Oaks. The very life and soul of these Societies, the very object of their existence, is to keep the breed pure. As with horses and dogs, so with the old Border Carnation. I heard afterwards that the committee unanimously decided to turn down Mr. Allwood's suggestion, it being stated that its members having for fifty years kept pure and unsullied the cult of the Border Carnation, they regarded the introduction of base American blood as against the interests of the Society and that the members and committee of the National Society intended to hand down the type to posterity as pure as they received it from their fathers. To these sentiments I humbly subscribe my warm approval before dismissing the subject.

Splendid legend, splendid lie! There is one part of Mr. Allwood's letter that fills me with grief. He states that the Border Carnation is developed as an exhibition and not as a border flower. Some one has said that facts are stranger than fiction, surely your correspondent is stranger than either. What are the facts? Take my own firm (and I suppose it is regarded as one of the first Border Carnation specialists in Great Britain). Last year we had nearly an acre of seedlings blooming for the first time in the border after layering those we intended to keep, they were potted up and placed outside, where they remained all the winter and where they can be seen to-day with 50,000 named varieties, some of them in bud and awaiting their turn to be taken inside to flower. All these stock plants having been nine months outside, exposed to the frost, snow and rain of the season. I presume it will be admitted that one must put the flowers under glass to obtain seed. After the seed is harvested in October they will be potted up and placed outside again, for a Border Carnation is far happier in the open border than in a greenhouse; that is an established fact, known to all growers. Had Mr. Allwood visited our nurseries he would have known this.—JAMES DOUGLAS, *Edenside, Great Bookham.*

I AM glad such a valiant champion of the Dianthus tribe as Mr. Allwood takes up this discussion regarding Border Carnations (see page 226). Glad, too, that we should get the views of a noted grower whose natural leanings, perhaps, tend towards the Perpetual-Flowering Carnations which form the main part of his interests, for this will help to keep the purely "Border" men from worshipping too closely at the shrine of what might appear to be a false god. But after all, we set out to ask what a Border Carnation is. Well, what is it? The true Border Carnation is a perpetual-flowering plant (abusing the word perpetual as it is wont to be so abused in this connection). This may seem paradoxical, or even iconoclastic, but I hold that the plant in question shows an increasing tendency to spindle its side shoots in autumn, thus preparing for a continued floral display which only the approaching winter stops. Constitutionally, too, this Carnation is more powerfully adapted, by reason of its greater hardihood, to *be* perpetual, than the so-called perpetual variety, in that the same plant would go on blooming over a greater number of years; which is giving the more catholic meaning to this vagrant word perpetual.

Now I deem this spindling proclivity somewhat of a fault in our border type of Carnation, and I am convinced that the true difference between the two races is none other than a matter of growth extension. A true Carnation makes grass born with a predisposition to shoot towards *early* bloom, the result, doubtless, of long culture in mild or warm temperatures. I may even suppose that every bit of grass formed would spindle *early* but for the practice of pinching, adopted to

prevent it, and even the secondary growths made after pinching would do likewise if such were not checked by being made into cuttings for propagation. I use the expression early spindling, or more correctly continuously spindling, because naturally every side growth made is an incipient bloom spike in time, that time being for the Border Carnation, generally speaking, the following year, and for the perpetual type, as soon as the amount of artificial heat at command allows it. This is the secret of the Perpetual Carnation being inherently unsuitable in habit for outdoor cultivation, and it is accentuated by an inclination towards top growth, and the formation of a top-heavy plant with a bare and woody stem. On the other hand, the border type makes its grass towards the bottom of the plant; that grass does not readily elongate into flower stems until the following season, though, as I have hinted, sometimes it does, but in the main the plant retains its ideal border habit which will, so long as this type is bred pure, continue to mark it as, *par excellence*, the best and, indeed, the only good outdoor Carnation.

And through this argument I come to the point where I think Mr. Allwood is at fault in his denunciation of the National Carnation Society. He very kindly offered special prizes for displays of his firm's Border Perpetual or Perpetual Border Carnations which the Committee could not see their way to accept. One of the prime and most important functions of the Society is to foster a pure and true cultivation of the Border Carnation, and it was in no spirit of narrow conservatism that Mr. Allwood's offer was declined. The Committee (and I speak with authority for I was one of that Committee) appreciated his generosity, but felt it would be a mistake to comingle the two varieties until it is more clearly demonstrated that this marriage of types is eugenically justified. We do not think it will be. The Border Carnation is undeniably the most perfectly formed Carnation in existence, and this virtue is worthy of jealous guardianship. As a parting passage at arms with my friend, Mr. Allwood, I hope he will excuse me when I say it was hardly like his usual good sportsmanship to dub the Border Carnation a pampered pet. Full well he knows that no grower of repute gives the faintest shadow of pampering to his plants. The Border Carnation in good hands knows nothing at all of artificial heat, that benign indulgence being left entirely for the comfort of its less hardy cousin.—J. L. Gibson.

PERNETTYAS NOT FRUITING.

SOME four or five years ago some twenty-five Pernettyas were acquired from a well known nursery garden, but although they were picked out for their berries and were particularly attractive when planted, they have ever since failed to set berries. About eighteen months ago some more Pernettyas were bought from the Donard Nursery Company, Newcastle, Co. Down, and with these came a certain number of male plants, extra gratis. These Pernettyas fruited well last year and, as a result, some more of the male plants were acquired from the Donard Nursery Company and planted among those plants which had refused to berry. These are now in full flower and on examination it is easily seen that the plant is dicœcious—the pistil being very long and there being practically no stamens in the male form, while in the female form the pistil is quite short and hardly visible. The male form must be planted if success is wished for, and, so far as I am aware, practically no nurserymen stock the male plant. This note is written by one who has suffered, through ignorance, for the use of others who still may be thus suffering and so missing one of the most beautiful berried plants hardy in this country.—L. R.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Rock Garden.—Some of the stronger growing plants need curtailing or they may smother the more delicate growing ones. As the Aubrietias pass out of flower they should have their flower stems trimmed off, and where necessary a batch of cuttings of the best varieties should be put in a cold frame in a light, sandy compost, where they will root readily. In fact they will root quite well if put in on a border in a somewhat sheltered spot out of doors. Cuttings of the double Arabis will also quickly root now if treated in the same manner. Should the surface of the ground be hard it should be pricked out especially around some of the choicer subjects, and where growth is unsatisfactory, apply a suitable top-dressing. Any gaps should be temporarily filled with a few suitable annuals, such as Eschscholzia tenuifolia (primrose colour), Ionopsidium acaule (a rapidly growing miniature plant having lilac flowers), Leptosiphon hybridus, Phacelia campanularia, Nemesia in its various colours and Night-scented Stock; these, to mention just a few of the many which can be used for this purpose.

Cheiranthus Allionii is one of the best orange-toned spring plants we have, and is one of the most effective I know of for massing, and its lasting properties are excellent. Sown now and treated like the Wallflower, good plants are ready for their flowering quarters in the autumn.

Bellis perennis.—This old time subject is hardly so popular as formerly, but it is quite useful in the spring garden as an edging sometimes and adds variety. Plants are very easily raised from seed, but the difficulty is to get them sufficiently true to rely upon. The offsets taken from around the old plants is a good way of increasing and keeping the stock of the most desirable ones.

Staking and Tying require frequent attention and should be carried out before plants fall about or become too much entangled with one another.

The Kitchen Garden.

Celery.—The early plants must be got into the trenches before they become too far advanced, and thus lessen the chance of a check through flagging. It is almost impossible to treat this plant too liberally, so as much well decayed manure as possible should be worked into the trenches. The plants should be well watered in and sprayed each evening after a hot day until well established.

Swedes.—These on account of their hardiness alone are well worth growing to augment the winter vegetable supply. A sowing may be made now, and again in a month's time, in drills 18ins. apart.

Tomatoes growing in pots, beds or boxes and yielding heavy crops of fruit must receive regular feeding either by top dressing or by the application of stimulants when watering. The removal of the point of main stem after five or six trusses are set, from a portion of the plants will assist in concentrating the energies upon the quicker development of the fruit. All lateral growth must be restricted and an occasional fumigating given where white fly is troublesome, taking care to first remove all ripe and ripening fruits.

The Hardy Fruit Garden.

General Work.—If not already done, the disbudding and thinning of wall fruits should be carried out as early as possible. An occasional syringing with a reliable insectitude is of great help to keep aphis in check on such fruits as Peaches, Plums and Morello Cherries, and frequent and thorough syringing with clear water should be given to ward off red spider, and generally assist the trees to make clean and vigorous growth. Newly planted trees against walls and fences must not suffer from lack of moisture.

Plants Under Glass.

Flowering Plants of Calceolarias, Streptosolens, Schizanthus and other annuals should be kept as cool as possible and shaded from bright sunshine. Young plants of the latter should be potted on and grown in cold frames, for brightening the conservatory later on in conjunction with such subjects as Fuchsias, Campanulas and Lilies, which are now coming along for the purpose. Should there be a scarcity of suitable plants for the conservatory in August and September, a sowing of such annuals as Clarkias, Larkspurs, Godetias and pink Malopes, made now, would be found extremely useful.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Onions.—Transplanted Onions will be growing freely, but should the weather be dry they will benefit much by copious waterings occasionally. Before watering, a dusting of soot between the lines will be an additional advantage. Should the ground become caked and hard on the surface loosen with a fine cultivator or hoe. A light mulching of short, well rotted manure may be added after a period, as this tends towards vigorous growth and keeps the root-run cool.

Cauliflowers.—Reasonable quantities of Early Erfurt and Walcheren should be got out now, but it is not advisable to plant in too large breadth at once, as this often results in a quantity being ready at one time with consequent waste.

Turnips.—Thin early sowings as they reach a suitable size, and continue with successional sowings, as this is a guarantee for fresh roots. Thinner sowings may be adopted, as seed germinates more freely now.

Leeks.—As soon as ready, a good quantity of these should be planted out in a deep rich soil as Leeks are gross feeders. Good results may be obtained by drawing deep drills with the corner of the draw hoe and planting deeply with a dibber, only partially filling the hole when planting. Allow about 15ins. between the rows and 6ins. between the plants. If special results are aimed at, the crop should be planted in narrow well manured trenches, while the plants should be earthed up gradually to secure a fine length of blanch.

Fruit Under Glass.

Late Vines should now be well set and ready for thinning. Use judgment in the work, as the different sorts vary in length of footstalk, with the result that large berrying Grapes borne on short footstalks ought to be thinned freely, while if the long stalked sorts receive the same treatment they have a loose appearance that spoils the symmetry of the bunches entirely. Where possible, keep up a brisk temperature, and make the most of the swelling period by giving manure water or other suitable stimulants. While artificial heat is at a premium, it is well to close the house early, with plenty of atmospheric moisture.

Orchard House.—Late Peaches and other stone fruits should be thinned before the stoning period, while care should be taken that none is too heavily cropped. It is sometimes desirable to give a slight dusting of lime to stone fruits, also a watering with soot water. Early crops should receive generous waterings of farmyard and artificial manure alternately. Keep the syringe going daily until the fruits show signs of ripening, when syringing must stop.

Melons.—Close up pits or frames early and conserve all sun-heat, as Melons enjoy a high temperature, provided it is sufficiently moist. Attend to the usual stopping, when necessary, and also to hand fertilisation. As fruits form, place a piece of slate or board under each so that they may be kept off the wet soil.

The Flower Garden.

Sweet Peas will now be growing strongly, so should be attended to in the way of tying in any loose shoots or thinning out lightly, where necessary. Where extra large blooms are required, the plants are generally grown singly, so disbudding must be attended to, also watering and feeding regularly. When a mulching can be applied, it lessens the need for watering and is of great benefit to the plants.

Erysimum Perofskianum.—If sown now in the open strong plants will be ready for autumn planting, and, treated thus, good results may be had during the spring months. This is a welcome addition to the spring-flowering group, its attractive orange coloured flowers and pyramidal habit being greatly admired. It grows to about 18ins. in height.

Genista præcox.—This handsome Broom has again flowered profusely, so should be subjected to judicious pruning immediately the flowering season is over. This applies more particularly where it is desirable to keep the plants within bounds. In the open shrubbery or woodland they may be allowed to extend their growth freely, unless they are inclined to become top-heavy.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

THE BANE OF THE FRUIT GARDEN

WOOLLY APHIS is the source of great trouble to fruit growers in all parts of the country. This pest is often called by the misleading name of "American Blight" but this term should not be used, as the aphis is really of European origin, although it has now become so widely distributed that it is found wherever Apples are grown. It is frequently introduced by infested nursery stock, and no doubt this is the way in which it has become distributed over the world.

This pest can be easily recognised by the white woolly substance which is secreted by both the adult females and the young, and with which they are covered. The common form consists of wingless viviparous females, which are of a purplish brown colour. These are always present and are continually giving birth to large numbers of living young, which soon arrive at maturity and produce young in like manner. The "lice," as the young are called, may be found in great numbers in the masses of wool which hang from the trees, and so are easily dispersed by the wind.

A great number of generations may be produced in a season, and this accounts for the alarming rapidity with which this pest increases.

The damage done is very serious if allowed to continue unchecked. Multitudes of them constantly sucking the sap have a great weakening effect on the trees, and the irritation they cause produces an abnormal growth or "gall," which in many cases resembles canker in appearance. The usual appearance of the galls produced on small twigs can be seen from the accompanying illustration.

In addition to the havoc it works above ground, this insect also attacks the roots, where it produces galls somewhat similar to those on the twigs. There is also a migration between those above ground and those below, descending in the autumn and ascending again in the spring. This migration, however, is very irregular and incomplete, and the aphids may be found on the roots at all times of the year as well as on the branches. Those found on the roots are identical with those found above ground, and where the latter are prevalent it is safe to assume that the root form is present also.

Towards the end of the summer the wingless females sometimes give rise to *winged* females, which are also viviparous, though much smaller. These winged females are quite rare in this country, however, but in America, where they are common, it has been proved that they migrate to Elm trees, and there give rise to wingless male and wingless oviparous females which attack and curl the Elm leaves. These in turn produce winged females which migrate back to the Apple. It is probable that there is a similar migration and alternation of generations in this country, but there is no direct evidence to prove it, as the winged form is of such infrequent occurrence.

Wingless males and wingless oviparous females have also been found on the Apple, but are extremely rare. These females each lay one egg and then die, the eggs remaining on the trees all the winter and hatching in the spring. The usual method of hibernating, however, is for the viviparous females to hide in cracks in the bark or in the galls on the roots.

This pest is always more or less prevalent in old and neglected orchards, where the trees are never pruned and are covered with moss and lichen. It is also frequently found in young plantations, and great care should be taken not to introduce it with the nursery stock when planting. Each young tree should be carefully examined, and if any are found to be infested the whole lot should be fumigated with hydrocyanic acid gas, or if this cannot be done they should be returned to the growers for treatment. Such fumigation will destroy all aphides which are present, including those on the roots.

It is useless to attempt to eradicate this pest on growing trees unless those below ground are attacked as well as those above. The common cause of failure is that the root form is ignored, and so the aphis reappears on the branches the following year even when all those visible were destroyed. Dealing with the subterranean race is more difficult than with those on the branches, but the importance of doing so cannot be overestimated.

The only really effective method is to inject carbon bisulphide into the soil, by means of a special injector. The injector should be inserted into the soil to a depth of 6ins. and about 2ft. away from the trunk. Care should be taken not to come into actual contact with a root, as the liquid would injure it, but the vapour does not. About four injections should be made round a fair sized tree; one ounce of carbon bisulphide is sufficient for each injection. This should be done during the winter or early spring, not later than March, but it is important that the ground should be fairly dry.

Where only a few patches occur on the branches of young trees which are easily accessible, the best plan is to paint them with methylated spirit, brushing it well into the cracks. This cannot, of course, be done on a large scale, and where the aphis is present in large quantities the trees must be sprayed with either a nicotine and soap wash or paraffin emulsion, using a coarse and powerful spray.

The success of spraying largely depends on the force and thoroughness with which the wash is applied, as the woolly covering has to be penetrated before the insects themselves are reached.

RAY PALMER, F.E.S.

The above illustration shows swellings, or "galls" as they are termed, which are produced by woolly aphis.

The illustration on the right depicts young apple shoots

A USEFUL TREE FOR CHALKY SOILS

ACER SCHWEDLERI is one of the most satisfactory trees that can be grown in poor, chalky soil. It is absolutely hardy and, unlike the Sugar Maple, is not touched by spring frosts. It is quick growing and the foliage a beautiful copper colour from April until about the end of May, from this time onwards it gradually turns green, the autumn leaves fading to a pretty colour. It is a variety of A. platanoides, but to my mind far more interesting than the type, although I do not know if it ever grows to the same size. Here we have numerous trees up to 50ft., with a girth of over 3ft. They were planted between thirty and forty years ago and are quite as large as the Norway Maples of the same age.

HEALEY NOBLE,

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

LUPINES UNSATISFACTORY (H. D. M., Grimsby).—We think the cause of the trouble with the Lupine leaf must be sought lower down in the plant. The portion sent shows nothing to account for it.

LILIUMS ATTACKED (H. L. P. B., Somerset).—The Lily leaves appear to be suffering from an attack of Botrytis. The measures adopted by our correspondent—namely, spraying with a solution of potassium sulphide—are the best; but, in addition, it would be well to prevent cold draughts or frosts from affecting the plants, as far as it is possible to do so.

IRISES ATTACKED (F. W. L., Hever).—There is a grub, the larva of a two-winged fly, that burrows into and devours the tissues of Iris leaves. It often does much damage and is difficult to deal with, but may be killed by pinching the leaf between the finger and thumb. There is a possibility that spraying the plant with a nicotine soap wash might be effective in destroying the grub.

HOW TO ERADICATE POLYGONUM FROM A BORDER (R. P., Canterbury).—Constant hoeing or pulling up of the Polygonum shoots is the only means likely to be effective in dealing with this plant. It is not at all likely that it would be safe to apply weed-killer to the path to a sufficient depth or in sufficient quantity to kill it, or that anything short of a concrete wall would keep it from reinvading the border when once it has been turned out.

IRISES TO FLOWER IN JUNE (Felsted).—As a "tall, showy, June-flowering Iris that increases well" and that would pretty well continue the colouring of Kharput we name Shalimar, but as it is apparently intended to plant in quantity this magnificent variety may be rather too expensive, in which case pallida Brionensis or Caprice would "fill the bill." The following varieties, named by our correspondent, may also be confidently planted: Mme. Chereau, Albert Victor, Mme. Pacquitte, Mrs. Neubronner, Darius, Jacquiniana and Mrs. Alan Gray.

TULIPS (Felsted).—Generally the tall-stemmed Tulips are best lifted and replanted in fresh ground at the end of every second year at least, but under suitable conditions of soil and climate they may continue successfully over a longer period. For this, it is the Cottage varieties and such species as Tulipa Gesneriana and its varieties, T. Didieri, T. fulgens, T. macrospila, and T. retroflexa that should be tried. The Darwin Tulips are not likely to succeed when left in the ground, and we fear that even the others will, after a few years, throw flowers that gradually become smaller and smaller.

LILIES DISEASED (D. R. W., Hants).—The Lilies are attacked by the Lily disease due to the fungus Botrytis cinerea. If the attack is only just beginning spraying with potassium sulphide will check it, but it is important to see that the Lilies are exposed as little as possible to the action of cold winds and sudden frosts, for it is often such foliage as has been weakened by this cause that suffers. Some Lilies, like L. candidum, are the better for lime in the soil, and this near the surface is an aid to preventing the spread of the disease. A dressing of sulphate of potash at the rate of ½oz. to 1oz. to the square yard will be likely to do some good and may be applied now.

DOUBLE ANTIRRHINUMS (A. T., Biggar).—We are greatly interested in the spikes of Antirrhinum. The fusion of two flowers on a single stem is quite a common occurrence in the plant world, and we often have sent us examples of flowers bearing more than the normal number of petals, but the spikes on which all the flowers have extra standard petals are much less common and of more interest in that this has occurred for the second year on a proportion of the seedlings. While we shall be interested in learning how future seedlings behave in this respect, we are of the decided opinion that the "doubling" of the Antirrhinum is not an improvement. The flowers have lost a deal of the charm and grace of the typical form, though the colour is very pleasing.

VIOLET CULTIVATION (H. T. M., Shrewsbury).—If the ground has been properly prepared for the Violets, which are to be planted in frames later on, stimulants should not be necessary at any time while they are in the open ground; but should the young plants not be growing satisfactorily they will benefit from a light dressing (about 3lb. per square rod) of sulphate of ammonia spread between the rows of plants and well watered in. Evening sprayings with clear water, on fine days, will do much to promote growth and to keep the Violet's great enemy, red spider, in check. Should these insects become established the plants should be sprayed with some insecticide; afterwards it will be found that spraying once a week with weak liquid manure in place of the clear water will render the foliage distasteful to the insects and so do much to prevent injury by them.

ROSE GARDEN.

MANURE FOR ROSES (I. W., Murrayfield).—We use nothing but pig manure for our Roses. If cow dung were available we should prefer it, but as it is not, we use the pig manure with happy results. We do not think the attack of rust and green fly necessarily indicates a state due to manuring, and if early repressive measures are adopted, green fly can, as a rule, be checked at once. Are you sure rust is present? It is extremely early to see an outbreak.

THE GREENHOUSE.

POTTING CARNATIONS (Bourton).—If in comparatively small pots it is certainly desirable to move the plants into larger sizes when well rooted and before they are matted with roots. As a rule, it is better to prevent flowering by stopping the shoots until the plants are in the flowering-size pots. Even now it might be worth while removing the flowering growths if the plants are in small pots and move them into a larger size. The alternative is to feed with liquid manure or guano.

FRUIT GARDEN.

LEAF CURL IN PEACH AND NECTARINE WALL TREES (J. H. T. W., Kent).—Little can now be done to stop leaf curl except to remove the badly curled leaves. Next February—about the middle of the month—spray the trees with Burgundy mixture.

AMERICAN BLIGHT (Felsted).—You probably do not reach all the woolly aphis by the application of kerosine. Furthermore, the mild seasons of the past two or three years have probably left some of the insects which lived on the upper part of the tree alive. Persistent attention with paraffin emulsion would do much to lessen their numbers, but it must be applied so as to reach the insects in the crevices.

APPLE TREES ATTACKED (M. V.-M., Burley).—There is no fungus on the Apple shoots sent, but examination of the branches which bore these shoots will probably reveal canker spots bearing greyish masses of spores, the result of the attack upon the tree of the fungus Monilia cinerea. It is best to deal with this disease in winter, cutting out all branches and shoots that show signs of its presence, but something may be done now by removing diseased parts. The larger wounds should be painted over with lead paint as a means of checking infection.

MISCELLANEOUS.

WATER WEEDS (H. C. L.).—The best means of destroying the surface water weed is sulphate of copper placed in a loosely woven bag and drawn across the surface. The proportion of sulphate of copper to use is 1lb. to 16,000 cubic feet of water.

SUMMER CLOUD (M. C. L.).—This shading is usually put on the outside of a greenhouse, as the inside is damp and in the syringing of the plants it readily runs and washes off. It is desirable to use Summer Cloud only where blinds cannot be used at the ends and sides of a greenhouse. It is not advisable for the health of the plants to permanently shade the roof throughout the summer.

SEED VESSEL FOR IDENTIFICATION (P. J.).—The specimen submitted for determination consists of the remains of a Pine cone that has been attacked by squirrels for the seeds. It is apparently Pinus Cembra, the Stone Pine of the mountains of Central Europe and Siberia The seeds are edible and are largely consumed by the Russians as we eat nuts.

VARNISHING ZINC LABELS (F. W. L., Hever).—It is a difficult matter to properly coat zinc with any varnish, and what does adhere would certainly peel under strong sunshine. On the other hand, there is no difficulty with paint, and we recommend that the labels are coated with good white lead paint, and the plant names written on this just before the paint is dry. When thoroughly dry, the labels could be easily varnished, and would then become lasting and legible labels. The most suitable varnish is that which is sold by oil and colour men as "best white oil varnish."

POND WEED (Pettistree).—The pond weed is Potamogeton crispus, one of the twenty or more species that are found in various parts of these islands. The presence of ornamental Water Lilies and waterfowl prevents the use of any destructive chemical. If it were possible to drain the moat and keep it dry for a season, digging up all the creeping roots, this would clear the weed, always provided that fresh supplies did not enter with the water. But this, we fear, is impracticable; if so, the best method of keeping the weed under control is by cutting it as low down as possible during the season of growth, which, fortunately, is short. If the water is too deep for wading, the cutting may be done from a punt, the workman using an old scythe blade "set" rather widely on a stout pole.

NAMES OF PLANTS.—Totland.—Salvia Grahami.——Thornebroad.—1, Spiræa ulmifolia; 2, Escallonia macrantha.——Mrs. J. B. L., Surrey.—Pyrus Aria.——R. F. C., N. Devon.—1, Saxifraga granulata var. flore pleno; 2, Sedum Sieboldii; 3, Sedum Sieboldii var. variegatum.——W. W., Banstead.—Ceanothus dentatus.——"Limington."—Rose Mme. Alfred Carrière

A Challenge Cup for Pæonies.—Mrs. Edward Harding of Burnley Farm, Plainfield, New Jersey, the well known authority on garden Pæonies, has presented to the Royal Horticultural Society a sum of money to be devoted to the provision of a cup in each of the years 1924, 1925 and 1926, to be awarded for the best display of Pæonies shown by an amateur grower of these flowers. The conditions of the competition for these cups will be arranged and published later; but, meanwhile, this early notice is given in order that Pæony growers may make preparations, for the plants need to be well established if they are to produce fine flowers. Pæonies are extremely popular as garden plants in the United States and Mrs. Harding sees no reason why they should not become equally popular here, and it is for this reason that she has offered these cups. Once properly planted, Pæonies may be left undisturbed for several years—a valuable characteristic in these days when garden labour is scarce.

Conference on Irises.—On the occasion of the fortnightly meeting of the Royal Horticultural Society on June 7 there will be, instead of the usual lecture, an informal conference on Irises at 5 p.m. Anyone interested in Irises is invited to bring up specimens, to draw attention to points in connection with them, or to ask advice about them.

Trial of Antirrhinums.—The Royal Horticultural Society proposes to carry out a trial of Antirrhinums for spring flowering in pots with the object of ascertaining the varieties best for this purpose, and of drawing greater attention to the value of these plants for greenhouse decoration. The Director of Wisley will be glad to receive seeds of varieties for trial, which should be addressed to him at the R.H.S. Gardens, Wisley, Ripley, Surrey, to reach him on or before Saturday, June 11, 1921.

Wanted: Particulars of Gardens Open to the Public.—The secretary of the Royal Horticultural Society would be greatly obliged if the owners or head-gardeners of those gardens which are open to the public at certain times, either freely or for payment, would kindly send him particulars, together with a note as to any special features of the gardens.

Lady Veitch.—As we go to press we much regret to hear of the death of Lady Veitch, wife of Sir Harry J. Veitch, the eminent horticulturist, which occured at East Burnham Park, Slough, on Friday, May 27.

Mr. J. L. Gibson.—We are interested to learn that Mr. J. L. Gibson, our well known contributor on Border Carnations, is about to leave City life and to start a nursery. From July 1 he will be a partner in the firm of Lowe and Gibson, Plant Hybridisers, Oakfield Gardens, Crawley Down, Sussex, and his energies will be devoted to the cultivation of Auriculas, Border Carnations, Irises, Delphiniums, Gladioli and Montbretias. We wish him every success.

A Good Weed-Killer.—One of the best weed-killers is the "Eureka," manufactured by Messrs. Tomlinson and Hayward, Ltd., Lincoln. It can be had in powder and liquid form, and is excellent for keeping the gravel paths clean and bright. Now is the time when paths require special attention.

PUBLICATIONS RECEIVED.

"The Carnation Year Book, 1921," edited by J. B. Brunton. Published by the British Carnation Society. Copies may be obtained from the Hon. Secretary, 57, Kidderminster Road, Croydon, S.E.; price 2s.

Villa and Cottage Gardening, by Alexander Sweet. Revised by George M. Taylor. Published by the Walter Scott Publishing Company, London.

THE GARDEN

No. 2586.—Vol. LXXXV.] [June 11, 1921.

NOTES OF THE WEEK

THE old double Pæony of gardens, P. officinalis, is one of the finest flowers of the earliest days of June in its three colourings of rich crimson, rosy red and pale pink. It thrives in all gardens, but especially where the soil is rich and the plant well nourished, for it is a greedy feeder. A mulch of manure applied in winter is a great help, but no form of nutriment comes amiss. In the single form it is a plant of Southern Europe generally, but the beautiful sub-species *lobata*, of a fine lovely, almost salmon red colour, a native of Portugal, though not double, should not be neglected

Bedding Out Commelina cœlestis.—This is a slightly tender plant that is now being put out. It should be grown by all who desire to have flowers of a pure and perfect blue. The form of the bloom shows its near relationship to the better known Spiderwort (Tradescantia virginica). It is best to lift and store the fleshy roots in pots in the winter, but it may escape if it is left in the open under a protecting cone of ashes or a heap of leaves.

The Blue Siberian Columbine.—For the rock garden and flower border the Blue Siberian Columbine (Aquilegia glandulosa) is well adapted. The blue and white flowers produced on stems a foot or rather more in height are singularly attractive. Usually flowering at the end of May or early June, it is one of the first of the Aquilegias to open. This year, on account of abnormal weather, it has been rather earlier than usual. A. glandulosa thrives best in a moist, gritty soil or sandy loam and leaf-mould.

A June-flowering Broom from South-West Europe.—Genista cinerea, the Sierra Nevada Broom, is one of the most useful and showiest of Brooms. Flowering in June it is doubly valuable when the galaxy of April and May-flowering shrubs is past. Tall and elegant bushes, ultimately 10ft. to 12ft. in height, the long slender growths are at present wreathed with the small pea-like, rich yellow blossoms. In common with other Brooms the subject of this note flowers best in comparatively light soils and sunny positions. Seeds provide a ready means of increase, the seedlings being planted in the flowering positions when comparatively small, as they do not transplant readily.

A Beautiful Blue-flowered Shrub.—Among hardy shrubs blue shades are by no means common. During spring and autumn the Ceanothuses are valuable

AQUILEGIA GLANDULOSA OR THE BLUE SIBERIAN COLUMBINE.

most useful for late May and June flowering is the Californian Lilac, Ceanothus thyrsiflorus. It is a large evergreen shrub or small tree, and in addition to its value in the garden and pleasure grounds the Californian Lilac is a most attractive wall shrub, growing to a considerable height on buildings when space permits. For this purpose fairly close pruning is necessary after flowering. Covering an arbour or summer-house Ceanothus thrysiflorus is of surpassing beauty, the loose-habited branches displaying to their full beauty the glossy green leaves and pale blue blossoms.

The Sweet Cicely of Old Gardens.—Myrrhis odorata, with its Fern-like foliage and cream white umbelliferous bloom in early May, is a useful plant in shrubbery edges and by half-open woodland ways. By the first days of June, when the bloom is over and the leaves are at their largest, it is a good plan to cut it down to the ground, leaves and all. It will immediately make new growth, and after a surprisingly short interval furnish itself with new foliage that will stand throughout the summer.

A Beautiful Californian Azalea.—Azalea occidentalis is a shrub which is of great value not only for its air of refinement but because it comes into bloom when the earlier Ghent kinds are going over. It has also the merit of having brightly polished foliage. The colour is mostly white and pale pink. It is well worth a visit to a nursery in order to make a careful choice, for the individual plants vary a good deal within certain characters. When such a visit is made it is a wise precaution to take a supply of conspicuous labels, with one's name and address written on, and to tie them at once to the chosen bushes. It not only ensures having the right plant, but is a welcome help to the nurseryman.

Saxifraga trifurcata as an Edging.—This Saxifrage is a low-growing plant that forms a natural margin to paths and is attractive at all seasons. In June this Saxifrage is covered with myriads of star-like white blossoms. Commonly known as the Stag-horn Rockfoil, this Saxifrage belongs to the mossy section of the genus and when not in flower makes a delightful moss-like carpet. The illustration on the front cover of this issue clearly shows what an excellent subject this plant is as an edging to garden paths. A native of Spain, this Saxifrage will thrive in any garden soil, provided it is well drained.

FORTHCOMING EVENTS.

June 13.—United Horticultural Benefit and Provident Society's Meeting. | Bath Gardeners' Debating Society's Meeting

June 15.—Yorkshire Flower Show (three days).

EXOTIC TREES AT GRAVETYE MANOR

BY WILLIAM ROBINSON, F.L.S.

LONG a witness of much unpleasant colour in gardens, public and private, on coming into possession of some farm land of my own my thoughts went to the gifts of the earth mother in the forests of the northern world. The plants giving poor colour are often the produce of costly glass-houses and must not be exposed to our air until near the longest summer months, while others coming from the plains and hills of the frosty North there can be no doubt of their fitness to face our clime at all seasons. And so I made a big trial of many trees, not in the mellow loam of Devon, or in the sea-kissed air of Cornwall, but in the often shady clay of the forest ridge of Sussex, high and storm tossed.

Last year, in spite of a very cold summer, the glory of our native mixed woodland colour emerged as fine as ever; but the object of this article is to deal rather with the beauty of trees of other lands than our own. The beauty of the Eastern American woods in autumn is splendid, and an idea which is common to many is that the pictures to be seen there are due to the climate mainly; and on coming here I thought I would try the American trees in any case to see how they might look in wholly changed conditions.

I do not follow any book classing of the trees, but take them in the order of their beauty and of the pleasure they gave; and only trees grown in the place are named.

Vines (Vitis) form a great natural family of climbers which garland much of the woods of the northern world, and among them have been of recent years included by botanists the plants once called Virginian Creepers. For thousands of years the wine-giving Vines have been known, but few grown of the other wild kinds; and it is only recently that some Chinese and Japanese Vines have come into garden use. Among many of the hundred wine growers' Vines in France there is scarcely one without some grace of form or beauty of colour, but the only one grown for years in our gardens has been the Claret Vine; while there are half a dozen others grown in France good as to colour. After this old European Vine of which the origin is lost in the mist of ages, there are the wild Vines, some of which are very beautiful; but the king of all Vines for effect is the Yezzo Vine, which climbs the forest trees of the woods of Yezzo, up to the highest, and is the finest hardy Vine for effective colour. It has long been known in the nursery of Anthony Waterer at Woking under another name. The plants were the joint gift to me of two friends—the late Lord Currie and the late Sir Henry Yorke—and seedlings from it I put in all sorts of positions (over Apple trees, pergolas and hedgerows, on Hollies and other trees) and they never failed to give a superb effect. This Yezzo Vine is as hardy as a brier; it seeds abundantly and is well worth placing in its natural position; that is, climbing up forest trees

THE LOWER POOL AT GRAVETYE, WITH WILLOWS, DOGWOOD AND SPRUCE IN THE BACKGROUND.

Maples (Acer).—In this great family of northern and mountain trees there are many with some beauty of colour, but I here name those of proved and striking value in our land. Best of all there is the Norway Maple, in woodland and copse splendid for its autumnal colour. The Japan Maple in its varieties often gives fine colour, but it has not assumed the tree form essential in woodland. After the Norway Maple, for beauty, comes the Silver Maple of America, a tall and graceful tree. The wild tree is far better as to endurance than any of its varieties. Our native Sycamore is varied in colour, and a brown form comes true from seed. Our native Field Maple in many districts shows a pleasant colour in autumn, and so does the Red Maple.

Willows (Salix).—The most beautiful tree of our islands is the White Willow, grown in marshy ground or on riverside, and grouped and massed. It is good in colour all the year round and fine in summer storms. The hybrids of this, the Huntingdon and the Bedford Willows, are like in effect. One is said to be the true bat Willow, but here, the men who seek bat wood are quite happy to get trees of the true White Willow. The facility of increase of the Willows from cuttings is such that many people never think of any other way, but it is best to look to the seed for the best grown trees. Nature did not give the seed vessels for nothing Willows from seed are not to be had in nurseries, so that one who cares for them must raise seedlings for himself. Next in value in the landscape comes our own native Golden Willow, sometimes grown in nurseries under the name of Cardinal Willow; it is fine, too, all the year round. Merely planted as a "specimen," it has only a slight effect; but grouped it is a fine winter tree to see, growing anywhere in moist ground, but best on river-carried soils. The Purple Willow, a low, graceful, weeping tree, sold by the nurseries to die through being grafted on the Sallow. A gray bush Willow (Salix rosmarinifolia) gives a welcome colour as undergrowth near water. Beautiful trees in riverside soil are the Babylonian and other weeping Willows, but those in some upland soils with a rocky bottom are short lived and quite poor in effect, as they naturally grow in river-borne soil.

Poplars (Populus).—Near the Willows come the Poplars, which give fine character to the rivers of France and the woods of North America. The Canadian and the common Poplars pass into good colour in autumn, the most distinct among them being the White Poplar. It is not of much value in ordinary soil, but is superb in rich hollows. Of recent years another fine tree, the Black Poplar (Populus trichocarpa), has come from Oregon and the region near, where it grows 200ft. high. It is fragrant, a rapid grower, and striking for its silvery effects in woodlands. Our native Aspen, which here passes off into modest colour, in certain calcareous soils assumes a fine claret colour.

Thorns (Cratægus).—The world gets richer in Thorns every day—it is alarming to think of the number they find in America—but, whatever their distinction, many of them are fine low trees and we may look to them to give us some day good live-fence plants. All are well armed with thorns and beautiful in flower and fruit. There is nothing we want so much as a live-fence that will take care of itself. Our native Thorn is so often in need of attention that it tempts many to neglect it for the iron fence. We have used the Cockspur Thorn as a fence, and a fine wood fence it makes, taking a brown red colour in autumn

Dogwoods (Cornus).—The Dogwoods claim a vigorous grower in almost any soil, but it loves marshy ground and helps as a weed-killer! Close set, as it should be for effect, its shade of leaf is so dense that weeds that defy the hoe give up the ghost after a few years in the embraces of the Siberian Dogwood. (There is some little confusion often in calling this the Scarlet Dogwood, a native shrub not so effective as the Siberian shrub, which bears white berries.) The handsome American flowering Dogwood does not thrive so well here as we should like, but it gives us fine colour of leaf in the fall.

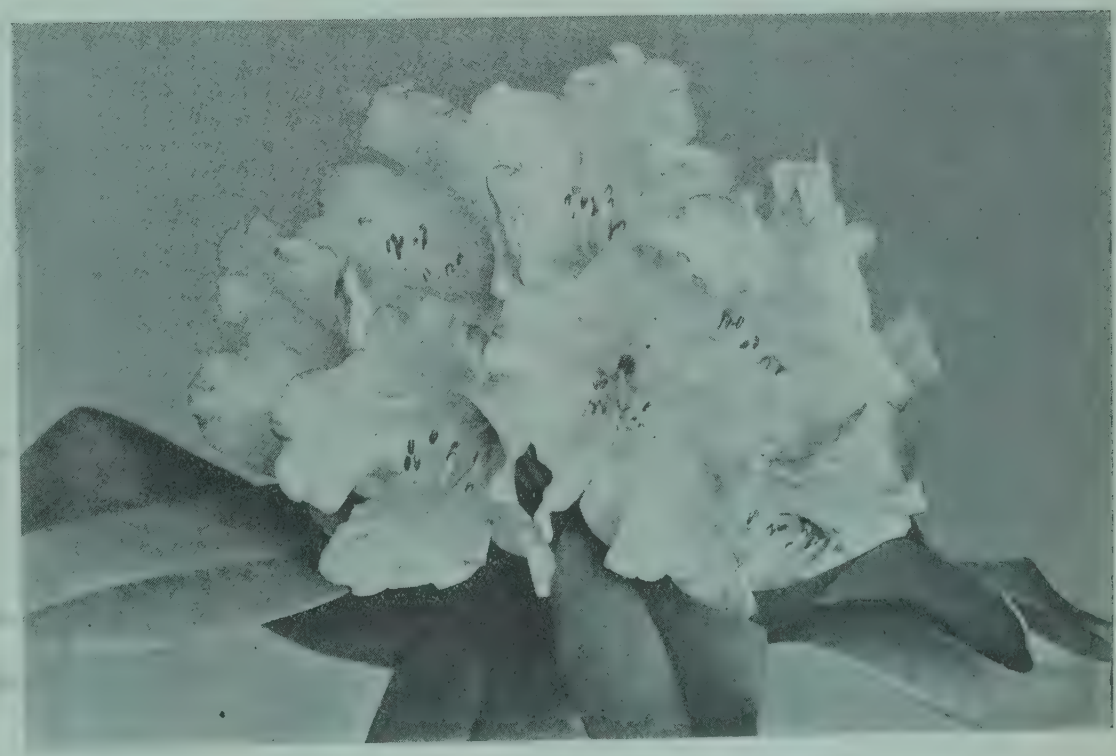
Cherries (Prunus).—The wild Cherry trees tell their own story in many woods in the Southern Counties; in autumn are fine in colour. Led on by them we tried the Japanese Cherry in its various forms, so beautiful in flower in spring. A group growing above the Azaleas was one of our loveliest clouds of rose in the early spring. These Cherries, too, turn to a rich brown in the autumn.

Barberries.—These brilliant shrubs are coming in numbers from other countries, chiefly the mountains of China and Thibet, and we may therefore look forward to having more good things in time. We are already rich in Thunberg's and a number of brilliant fruited kinds, like Wilson's. Our native Barberry is a lovely shrub grouped in the full sun, and its purple variety is also excellent. The evergreen Barberry is also an attractive shrub, so much so that the hawkers steal its leaves for the London market. There is the fine evergreen Darwin's Barberry, and hybrids raised from it are excellent in effect in spring.

Iron Tree (Parottia).—This distinct hardy tree gives a good display of colour in the autumn with its large leaves. It is a native of the highlands of Northern India and Persia. As yet we do not know enough about it to judge of its character as a tree, but there is no doubt about its hardiness and fitness for our climate. We grow it among trees, partially shaded, but probably it might be better in the full sun.

Maidenhair Tree (Ginkgo).—This beautiful tree, which is so happy in our country in some old gardens, also gives us a rich yellow in the autumn. It is also handsome in fruit, but the male form is the one mostly seen in our gardens. It is easily grown from seed, so that its grouping or massing should be an easy matter; and old trees are fine in colour in the fall.

A NEW HYBRID RHODODENDRON



RHODODENDRON MARGARET BEAN.

Flowers yellow edged red.

THIS is a hybrid Rhododendron raised at Kew, the parents being the yellow-flowered species R. campylocarpum, a native of the Sikkim Himalayas, and a red-flowered garden variety, Esmeralda. The ground colour of the flowers of Margaret Bean is yellow with a dainty edging of red. It is a not uncommon saying among Rhododendron enthusiasts that a fortune awaits the raiser of a hardy large-leaved, deep yellow Rhododendron with flowers the size of Pink Pearl. The object in making the cross which produced Margaret Bean was a step in this direction. The plant appears to be hardier, and the leaves and flowers are larger than those of R. campylo-

the male parent, though by intercrossing and selection of the seedlings it should be possible to eliminate this. If one of the Chinese collectors would only send us home a large-leaved evergreen species with flowers the colour of Azalea Anthony Koster the hybridist would surely raise a monument to his memory.

The crossing or pollinating of the flowers of Rhododendrons and the raising of the seedling plants is most interesting work. No artificial heat is necessary to raise the seedlings. A cold frame or pit is desirable, though even this is not indispensable pans or shallow boxes each covered with a sheet of glass and stood in a sheltered position making excellent substitutes

PRESENT PREPARATION FOR WINTER FLOWERS

The first half of June is the time for the final potting of winter-flowering greenhouse plants, including Chrysanthemums. Greenhouse plants can be poor and unsatisfying, but this is due to improper summer treatment. If the advice given below is followed, the result will astonish some who have been content to do things in haphazard fashion.

DURING the late autumn, winter and spring months, a gay greenhouse is fully appreciated, more so on account of the scarcity of flowers outside, and, in many instances, the uninviting appearance of the immediate outside surroundings during the cold months.

But, to satisfy the natural hunger for a bright display of flowers during the winter, the cultivator must look well ahead. He must not wait till winter before taking action; practically, the final preparations must be made before midsummer day. A good selection of plants is essential to success—those kinds that flower profusely and do not require a high greenhouse temperature.

Chrysanthemums take the lead for the autumn display and, indeed, till Christmas. The plants should be closely examined now and those not already dealt with, repotted forthwith in the large pots. The strongest varieties will do best in 10-in. and 11-in. pots; also those that are to bear the latest batch of flowers; the November-flowering ones will do nicely in 9-in. and 10-in. pots. The potting compost acts as the storehouse for food supplied to the roots, so it is advisable to take extra care in the preparation of the compost and the actual potting so that the soil will remain sweet and porous as long as possible. The position of the plants should be an open but sheltered one—sheltered from the strong winds.

Tree Carnations.—The most forward plants, now well rooted in their flowering pots, may be placed outside in a similarly sheltered spot till the middle or end of August. Place the pots on boards, tiles, or ashes. The bulk of the plants will need stopping during this month. The later batches of plants must be kept in cold frames till July, but be fully exposed except in very rainy weather. The final potting of many plants must take place now; do not use any fancy compost, but mainly well rotted turf with plenty of fibre in it, some sweet leaf soil and concentrated manures according to the directions given with them.

Begonias.—Many of the fibrous rooted evergreen Begonias flower profusely in the warm greenhouse during the winter time. They need frame treatment now; well ventilated in suitable weather and kept closed when it is cold or there is much rain. Neat specimens result if the shoots are judiciously stopped now and during the following six weeks. Use loam, leaf soil and sand as a potting compost. Begonia Carrieri, white; B. weltoniensis, rosy pink; B. fuchsioides, bright red; B. picta, red flowers, lovely leaves; B. Knowsleyana; B. nitida and B. Gloire de Sceaux are all admirable and well tried sorts.

Bouvardias.—Cultivators who understand how to treat Fuchsias may succeed with Bouvardias too. A sunny frame or plot outside will answer for the accommodation of the plants now, or the pots may be plunged to their rims in ashes. When potting the plants use a compost of fibrous loam, leaf soil, some sand and a small quantity of old mortar rubble. Pinch the points of the more straggling shoots till the end of July—not after that date. President Cleveland, scarlet; Vreelandi, white, single, and President Garfield pink, with Alfred Neuner white, double, will serve our purpose well.

Salvias.—If the flowers of these plants did not fall off so much soon after the plants are placed under glass early in the autumn, more, I am sure, would be grown There are several reasons for the shedding of the flowers prematurely, namely: sudden change temperature, undue exposure to cold draughts a inattention to watering. The plants must not made to feel the change from the outside to t inside temperature too much. Keep the plants w apart now and during the summer months as to secure bushy specimens. Salvia splende Bouanti, brilliant scarlet; S. gesneræflora a S. Bethelli will make a fine display if the plan are well grown.

Zonal Pelargoniums.—The double-flower varieties have found much favour in past year till recently more of these and fewer of the singl have been grown for a winter display. The flowe of the single varieties do not damp nor drop in a mouldy condition as much as those of t double ones, a great consideration in these tim of shortage of fuel. The final potting must be do now so that the plants may soon fill the pots wi healthy roots and be ready for feeding at an ear date. Place the plants in a very warm positio outside, stop the shoots till early in August an continue to remove all flower stems till six week prior to the time that the first batch of blossom needed. A 4½-in. potful of bone meal to a bushel compost is a lasting and very beneficial food f these Pelargoniums. The housing should tak place before the plants are chilled by the autum weather.

Libonia, with its profusion of pretty red an orange tube-shaped flowers, should find a place

FIRST STOPPING AND ITS RESULT.
The plant on the right was neglected.

THE BENEFIT OF SECOND STOPPING.
A was stopped for the second time at the points indicated. The spindly plant should have been stopped where marked

our greenhouses from October till well into January. At the present time repot the young plants and again later on as they require it, employing loam, leaf soil and sand, with a little rotted manure. Grow in cold frames.

Eupatorium riparium.—If treated similarly to a bush Chrysanthemum, in the matter of potting, stopping and tying out of shoots, this Eupatorium will yield a fine lot of pretty white blooms throughout the winter in a moderate temperature.

Kalosanthes.—Very few plants are more showy during the summer months. The wax-like pink and fragrant flowers of Kalanchoe carnea maintain the display, or practically renew it from November till the end of February. The plants are succulent and require treatment very similar to that suitable for Kalosanthes.

Solanum capsicastrum.—This berry-bearing Solanum should have a place in our greenhouse during the autumn and early winter months. The brilliantly-coloured berries in a setting of deep green leaves often called, by amateurs, "Winter Cherries," play an important part in the furnishing of the warm greenhouse. From now onwards, place the plants on a bed of ashes or in a cold frame, attending carefully to watering, and, directly berries begin to form, feed liberally with soot and manure water

Primulas, Cinerarias, Calceolarias and Cyclamen, if grown in cold frames from now onwards, will yield a rich harvest of blossom from November till April. All lovers of gay greenhouses in winter should pay close attention to the work of repotting the plants now as dilatoriness in this matter would mean stunted specimens which would flower

ROCK ROSES FOR SUNNY BANKS

No Situation Too Hot and Dry, No Soil Too Poor

ANYONE who has seen the Cistus or Rock Rose in its native haunts—as on sunny hillsides in Southern Europe, where the writer hopes to do so again by the time these lines appear in print—is glad to meet it again in England. There is a southern look about these flowers which possess a beauty all their own. No situation can be too hot and dry, and no soil can be too poor for them. The plants must have room to spread and ramble at their own free will, for they resent fussing and trimming, and love to go their own sweet way and to spread over the sunny side of rocks and banks. Many of the Cistuses are quite hardy, and the following (with the exception of C. ladaniferus, which is shielded with Pine boughs in winter) have stood outside in exposed positions in the writer's garden in Surrey through the last two winters: C. corbariensis. bearing white flowers; C. crispus and its exquisite variety Sunset, with grey leaves and purple crimson flowers about 2ins. in diameter; C. cyprius, one of the most beautiful of its race with large flowers 4ins. across, pure white, with rich brown-red markings near the base of the petals and a tinge of yellow at the extreme base. It is often confused with C. ladaniferus, which it resembles.

The true Gum Cistus, C. ladaniferus, is less hardy and unless protected as mentioned above it is usually touched by frost in winter. It is one of the finest of the genus. The blooms are white, with a rich purple blotch at the base of each petal, and the plant grows to a height of 6ft. to 8ft. From this species ladanum is obtained, a resinous exudation of pleasing fragrance. C. laurifolius is a big grower, very hardy, with a good habit and abundant white flowers. It grows 6ft. or so in height, will stand for many years, and is probably the hardiest of all the species in cultivation. C. monspeliensis, with dense foliage, varies in habit and bears a profusion of small white flowers. C. purpureus is perhaps the most beautiful of the whole race. It bears very large brilliant crimson purple flowers, and each petal has a deep blotch of maroon at the base. No Cistus flowers with greater freedom in the writer's garden than C. florentinus, a good grower, very hardy, forming a dense spreading bush literally smothered in white flowers. C. Loretti syn. lusitanicus forms an attractive evergreen bush, as a rule less than 3ft. high, of spreading habit. It bears large white flowers with bold crimson spots and, unlike most Cistuses, the flowers are retained until the evening.

In the cultivation of these beautiful plants it should be remembered that too much moisture in the soil is fatal: they thrive on poor stony soil and sunny banks with their roots hard and dry.

EFFECTIVE GROUPING OF ROCK ROSES UNDER FIR TREES IN A DRY SOIL.

Some Plants that Lack Deserved Popularity

Though Slighted they are Worthy and are Easily Grown under Suitable Conditions

IT is strange that with all the books, journals, articles and notes on gardening matters that are circulated, and in spite of the facilities for exhibiting plants that bloom at any season of the year there are some which possess quite exceptional merits, but for some inexplicable reason they lack popularity and are almost unknown.

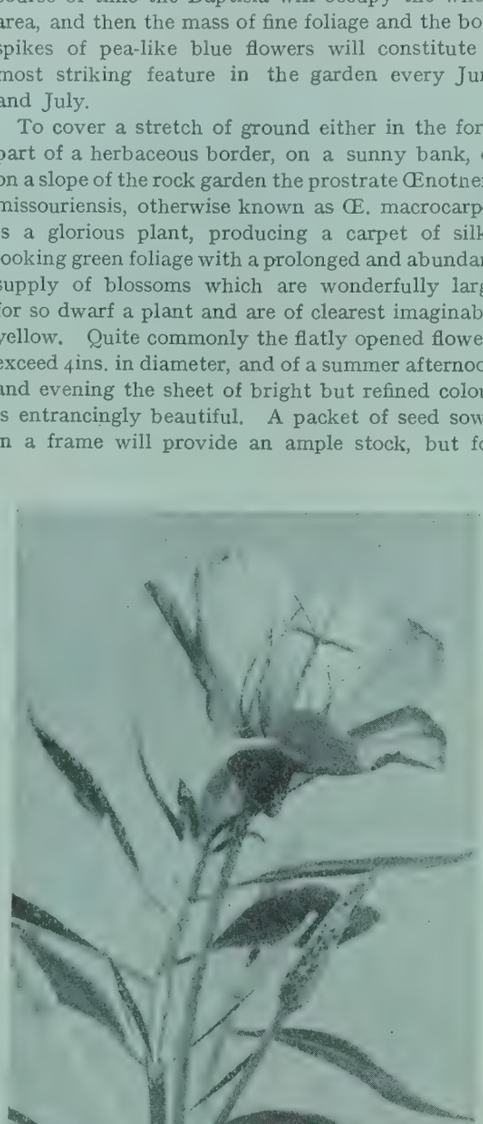
It is not choice rarities that demand special care or accommodation of which I am thinking, but rather of a few quite easily grown plants that are not at all fastidious in regard to soil or situation and that bloom freely for a lengthy period and which certainly deserve a greater share of attention than they at present enjoy.

I will place first among these undeservedly slighted plants the dainty little Androsace coronopifolia. This is a perfectly charming little thing which forms a rosette of stalkless green leaves nestling close to the soil, from which rise flower stems to a height of about 3ins. The flowers are borne in umbels on foot-stalks which radiate in a light, airy arrangement, the flat white blossoms being about as large as a Forget-me-not, and the plants, whether grown in the rock garden, around the edge of a bed, or in pots and pans, will make a brave show for many weeks during the spring season. It is only of biennial duration, but seed is so freely produced and so easily raised that when once installed there is no difficulty in maintaining stock. Over twenty years ago I made the acquaintance of this little gem in Messrs. Barr and Sons' Long Ditton Nurseries, and as evidence of its easy culture I may mention that from seeds which dropped among the ashes in which plants in pots were plunged an abundance of young stock was obtainable. Strange, it seems, that so accommodating and easily grown an Androsace, which might well be made an edging for beds of spring bulbs and would add charm to any rock garden, can scarcely be found in any of the hardy plant catalogues.

Chænostoma hispida is another white-flowered plant one seldom sees, but it might almost be termed perpetual flowering, and both the habit of growth and the profusion with which its tiny starry flowers are produced are characteristics that should appeal strongly to amateurs who like something dainty but of easy culture. The accommodation of a small greenhouse, even unheated, is sufficient to keep the plants in bloom practically the year round, while those required for outdoor bedding may be safely wintered in a cold frame. Every shoot, when about 2ins. long, may make a cutting and strikes so readily that when once stock has been procured it is a simple matter to increase. The one question is: who has stock to offer?

How infrequently do we see in the gardens we visit a good patch of Baptisia australis, and yet it is one of the most charming of blue-flowered border plants one can establish in the herbaceous border. Its particular shade of sky blue is rarely equalled by other plants that are much oftener met with, and the only thing I can think of as a reason for its infrequency is that those who do plant it disturb it before it reaches its full glory. The Baptisia is one of those plants that, when once installed, should be left at peace. A good plan is to distrubute half a dozen roots over an area of several square yards. For the first season or two such plants as Antirrhinums or Poppies may be used to fill in the space between the plants, but in course of time the Baptisia will occupy the whole area, and then the mass of fine foliage and the bold spikes of pea-like blue flowers will constitute a most striking feature in the garden every June and July.

To cover a stretch of ground either in the forepart of a herbaceous border, on a sunny bank, or on a slope of the rock garden the prostrate Œnotnera missouriensis, otherwise known as Œ. macrocarpa, is a glorious plant, producing a carpet of silky looking green foliage with a prolonged and abundant supply of blossoms which are wonderfully large for so dwarf a plant and are of clearest imaginable yellow. Quite commonly the flatly opened flowers exceed 4ins. in diameter, and of a summer afternoon and evening the sheet of bright but refined colour is entrancingly beautiful. A packet of seed sown in a frame will provide an ample stock, but for some strange reason few of our seedsmen include it in their catalogues. For those who prefer a glistening satiny white to the yellow of Œ. missouriensis an equal display can as easily be procured by using Œ. acaulis (syn. taraxacifolia) the latter name implying the similarity of its foliage to the leaves of Dandelion.



AN EVENING PRIMROSE OF PROSTRATE HABIT (ŒNOTHERA MISSOURIENSIS).

Fragrance is as delightful and as desirable in the garden as is colour, and for its refreshing and invigorating perfume alone Cedronella cana should always be assured of affectionate regard. Its mahogany red flowers are not of the gay or brilliant order, but to catch a waft of its perfume is sufficient to make one pause and enjoy. There is no difficulty in growing Cedronella. It is easily raised from seed, and easily rooted from cuttings, and the probability is the only reason it is seldom met with is it is seldom written of. Thus it is with many plants that might and should always be popular.

A. J. MACSELF.

THE GARDEN OF THE TIRED MAN

IN case some of the ideas may be useful, I send the following short account of a little town garden which gave much pleasure to a very tired man during the years of the war: My husband was an exceedingly busy man and could only enjoy brief intervals of rest in the garden during the late evening; therefore we especially noted what flowers were most visible at dusk, and those which seemed sweetest when the dew was falling. Our garden was rather long and narrow; the taller flowers were planted at the further end, so that we could see most of them from the house on wet evenings. There were Moon Daisies and Madonna Lilies, large clumps of white Stocks (tall old plants at the back of a border) and Evening Primroses, whose pale yellow flowers were quite distinct in shade from white flowers even late in the evening. White Hollyhocks, too, were there; these were very noticeable, as were also the Tobacco plants, whose white flowers seemed to increase in size at twilight. White Honesty plants were particularly vivid, the petals appearing to possess a silvery gleam peculiar to themselves. The white flowers in a row of mixed Sweet Peas were always distinct. Turning to flowers of a darker hue, but sweetly scented, we had quantities of Heliotrope, Mignonette, Bergamot and Wallflowers—the latter were a dark variety, but golden and primrose coloured ones could be substituted with good effect. Besides the aforementioned flowers, we had sweet herbs planted on each side of a narrow path, and purposely allowed to overhang, so that we might brush against them in passing. Just imagine walking at evening down a path bordered with Balm, Hyssop, Winter Savory, various Thymes, Lavender, Rosemary, Santolina, Marjoram, Peppermint, Spearmint, Woollymint, Watermint, Pennyroyal, and at the end of the path a huge Oak-leaf Geranium and a Lemon-scented Verbena! The slightest touch as we walked along released the different leaf odours. I find I have not mentioned either Night-scented Stock, Sweet Briar or the old-fashioned Roses, which are particularly fragrant at night, the white and pale pink varieties showing up well, too. Also, three flowers which give off their perfume as dusk approaches—Schizopetalon Walkeri, Œnothera odorata and Hesperis tristis; for my knowledge of these I am indebted to Mrs. Earle's "More Pot Pourri from a Surrey Garden." A large old Pear tree and two Cherry trees gave great pleasure at night when they were blooming; their blossoms were more distinct than those of two little Apple trees, which were, however, quite visible. This little garden was always delightful and fragrant while we were in possession, and a never-ending source of enjoyment when the day's work was done.

MAUDE E. JONES.

Herbaceous Calceolarias.—Now is a suitable time to sow for next season's flowering. Use nice light soil and scatter a little silver sand over the surface. After sowing the seed do not cover, merely pressing the seed down among the sand with a smooth board. Place a sheet of obscured glass over the seed-pan, as this lessens evaporation and assists germination.

ROCK and FORMAL GARDENING

Our Special Correspondents' Comments and Criticism

MORE ABOUT THE ROCK GARDENS

Among other rock garden exhibits, at Chelsea that of Whitelegg and Co. offered some very useful suggestions in construction. The background was a cliff-like formation, through a rift in which was seen a water-hollowed cavity and from it a tiny spring issued. In the right foreground was a realistic little bit of Yorkshire or Westmorland moorland rock, faithfully reproduced. Had the remainder of the exhibit been completed up to the same standard, this would have been a very excellent piece of work, but the introduction of an island, as nearly as possible a true ellipse in shape, rather spoilt the conception. This island, edged by a rigid line of hard stone, surrounded by a narrow stream, and "bedded out" rather than planted with Primulas, was much too regular and trim to indicate a natural development. I do not say that such things never occur in nature, but they are unusual, and do not belong to the types that are sufficiently picturesque to be reproduced. "Veracity first of all, and for ever. *Rein de beau que le vrai.* In all design art lies in making your object prominent, but there is a prior art in choosing objects that are prominent," might well have been written as the true teaching of rock garden construction. Whitelegg's plants were good. They always are, but the use of them left a little to be desired. The "object" was not left "prominent." The colour was quite skilfully used so far as harmony was concerned, but was weakly managed in its distribution. The result was that there was no centre to the picture, and the whole effort became to the casual glance rather a mixture of rocks and plants, than a carefully designed effort, which it was. No cool green charm betrayed itself in the waterways; they were so many rifts among flower beds, and the design did not separate itself from the planting sufficiently to retain its value.

Pulham's effort was of a very different character, but showed the reverse fault. The work was bold; correct as regards the use of the material, indeed, I do not think it possible to make much better use of the particular rock employed in this exhibit. There was, however, a tendency to treat the planting as quite subordinate. The plants were not always in their correct positions and seemed to be used rather as a decoration for the rockwork than as part of the garden scheme. The general effect was, however, bold and good, but would have been much more appreciated if the neighbouring exhibit of garden ornaments had been placed somewhere else in the ground. Rockwork and sculpture are as oil and water, they do not mix.

Elliott's rock exhibit was so frankly used as a convenient method of presenting a very fine collection of beautiful alpine plants, that comment on its construction is superfluous.

I scarcely think it fair to offer any criticism on Kent and Brydon's exhibit, because such shortcomings as it presented were in large measure due to circumstances over which they had no control. They have done better in the past, but being compelled to start very late, they could not take things so leisurely as some other exhibitors. Considering the time they were able to spend on it, the result was remarkably good.

There were two other exhibits far removed from the above that must be noticed in the interest of the visitor who goes to Chelsea for reliable and planting might well have been introduced as an example of the things we left behind many years ago. A tortuous path, between raised beds of white stone, planted with Violas, Hydrangeas and other un-alpine plants was reminiscent of the "grotto" period of rock gardening in England. Frankly I think it belonged to that class of exhibit about which the authorities should exercise its discretionary powers to exclude from "the greatest show in the world."

In the other the construction was much better, but the planting was calculated to convey very wrong impressions. Acer Negundo variegata, Nertera depressa, Panicum, Ficus repens, trailing Tradescantias, annual Stocks, bedding Violas, are not alpine or rock plants. Nor would they survive long in the positions in which they were placed. If this lead is followed we might as well plant rock gardens with tender Orchids, filmy Ferns and tropical Palms.

So long as this sort of thing is tolerated at Chelsea, so long as such exhibits are recognised as worthy of any award, the public who *know* will mistrust the efforts of other exhibitors who are genuinely and honestly, as far as circumstances permit, trying to give faithful examples of their art and craft. So long also will a receptive public, which does *not* know, be tempted to copy such examples to their own cost and disappointment. "Because I saw it at Chelsea Show," is the boast of, and reason, given by many people when showing you some additions to their garden, and for this reason alone it is incumbent on exhibitors to present as truthfully as possible examples of their craft and the Royal Horticultural Society to discourage the presentation of expensively misleading information.

SUITABLE PLANTS FOR THE ROCK GARDEN

Turning from the rock gardens, as a whole, to their inhabitants, and the varied collections of plants throughout the Show suitable for planting them, the resultant effect was astonishing and bewildering. A list of all the things that "ought to be in every well planted rock garden" would be encyclopedic and voluminous. Going back to the days before the epoch making 1912 Show, one remembers the few square yards of tabling that would then be devoted to alpines, and thinks of the alpine world as very young then: and yet this year there was nothing startling or new, or should I say startlingly new? Lithospermum prostratum album was perhaps the outstanding feature. Frankly, although albino forms are sometimes very desirable, I do not think that this one supplies any long-felt want. If there is one thing more than another that is valuable in Lithospermum prostratum it is its glorious *blue*. It is a blue that nothing else in the garden quite supplies, not even the Gentian. Of course, a white form will be sought after by the collector, alpine specialist, and the man who values variety above beauty. In commerce it will linger among those plants too interesting to die out, but not sufficiently attractive to be in demand. As a hybridist's plant it may serve to produce many intermediate colour forms, but that it can ever produce anything more valuable or beautiful than the popular Heavenly Blue is impossible. As a quite distinct plant it was entitled to the certificate of merit it received, and [illegible] looking for a new plant should acquire it when the opportunity occurs. Its attraction will, however, be lost with its novelty. Certainly a more useful plant, but without the merit of such pronounced distinctness from other varieties, was the little alpine Aster Wargrave Variety. All the alpine Asters are useful in the rock garden, and this large-flowered, very dwarf variety of bright mauve blue (the blues in the alpine Asters always look as if they would rather be pink) will become very popular. Pipers were successful in securing three awards for distinct varieties of the new Kurume race of hardy Japanese Azaleas, and these are all more suitable for the rock garden than any other position. Most Primula lovers will remember the stir that was created when Wallace's introduced Primula Helodoxa, one of Forrest's collection, about 1915 or 1916. It obtained an award of merit then. That it justified all the prophets said of it is now proved by the magnificent results of cultivation in the hands of Mr. Lionel Rothschild, who produced plants that compelled the Committee to promote it by giving it a first-class certificate. The mention of this Primula brings to mind the collection shown by McWatt, and anyone looking for Primulas need only have spent a few minutes here to find their desire satisfied. P. Munroi, conspersa, Menziesiana, nutans, the minute pink tibetica, Rusbyii, Littoniana, rufa and others, most of them reminiscent of the last journey but one Forrest made in China, were there, with many others, while a huge clump of the yellow sikkimensis, in far more magnificent form than it has appeared in London within my memory, crowned the group. Close by this group I noticed a mass of another Primula that struck no note in my memory, and upon enquiry I found there was an excellent reason for it. This was an hybrid form akin to the Lissadel Hybrids, but different in many ways. Rogers, the exhibitor, says it is a pulverulenta × Cockburniana hybrid, never bears seed, propagates easily by division, and is perfectly hardy. It is miraculously floriferous, very graceful, looks as robust as a Cabbage, but there is none of the top-heavy appearance one associates with the pulverulentas, an intermediate colour between the two parents. There were several solid clumps in the exhibit, each of which appeared to bear from twelve to twenty-five developed flower spikes. It was suitably named Flambeau. There were other Primulas in the Show. Bulleyana, Beesiana, japonica, pulverulenta, among the species for the waterside, with hybrids galore, none of which was better than Ailin Aroon and Mrs. Berkeley.

Leaving the Primulas it was difficult to know where to turn without getting out of one's depth in an impossible catalogue of good things Saxifragas—well, there was one outstanding, Captain Symons-Jeune's hybrid Tumbling Waters, and very popular it will be when the number in existence is sufficient for distribution. As for the others, their names were legion, and to mention any would be to disparage many equally as good. Lingering round the many exhibits of alpine and rock plants, I tried to select a collection that would suit all tastes and requirements. I eliminated Primulas, Sedums, Saxifragas and Sempervivums, because these will find their way into every garden. Here are some of the selections before I gave it up in despair of including half that should be there: Mazus rugosus, Idrianthus

serpyllifolia, Pentstemon Davidii, P. Scouleri, Raoulia australis, Oxalis enneaphylla, O. adenophylla, Viola Bees' Apricot, V. gracilis and a charming range of hybrid forms in many colours, Dianthus neglectus, Incarvillea brevipes, Asperula suberosa, Campanula muralis and a host of other representatives of this dainty species, Cistus helianthemum in various colours, Erigeron philadelphicum, Erinus alpinus coccinea, and then on arriving at Prichard's exhibit one could only cease to write and just trust to memory, which soon became indefinite on account of the number of good things it was taxed with.

In the days of the old Temple Shows mentioned above we saw very few rock conifers. Certainly Juniperus hibernica stricta made its appearance in small numbers, and a few dwarf Abies, Pinus and Junipers occasionally appeared. I think Backhouse or Cunningham Fraser's were the most interesting exhibits in those days. Now we find them everywhere. Juniperus procumbens, the mossy-looking Japanese form, J. prostrata, hibernica compressa, tamarixifolia, sinensis aurea compacta. Cupressus in a dozen miniature forms, of which C. obtusate tetragona is the dwarfest, mossiest and greenest, unless it be C. obtusa cæspitosa, of which Rogers had one sixteen year old specimen that had managed to reach 4ins. in stature in that period. No one should think of planting a rock garden without beginning by finding places for a number, according to the size of the undertaking, of the dwarf rock conifers, and there are now easily obtainable representatives of all the best species in dwarf, compact or prostrate forms. Abies, Junipers, Taxus, Cupressus, Retinosporas, Cedrus, Pinus, Piceas and Thuyas have all produced their miniature forms suitable for the rock and alpine garden.

GARDEN ORNAMENTS AND FURNITURE

By no means the least important of the exhibits at Chelsea Show were the various garden ornaments displayed. Pulham's, with a varied collection, contained much that was good, and as it is impossible to particularise each, I must content myself by mentioning two examples and drawing such lessons as they may teach. The one was what is known as a "genuine antique"; a very fine old Venetian wellhead of the fifteenth century. Now, to my mind, the least important part of this description is that relating to its antiquity, especially when the ornament is desired for garden use. Do not misunderstand me. "There is in the things that time hath bent, a spirits feeling." Old wellheads from Italy or elsewhere possess a romantic and sentimental interest, but they should not be introduced into a modern garden scheme purely on this score. Such an introduction involves more than merely finding a place in which to display the object in question. The garden in which it is used must fit the ornament or both will suffer. Whether it is desirable to create a garden round an ornament may be open to question. This particular wellhead was not only old, but beautiful, which is a far more potent reason for using it, and this is the principle on which all garden ornaments should be selected. More emphatically still is it a reason for placing it only in suitable surroundings so that neither the ornament nor the garden may suffer by the introduction. Often such examples are used because it is pleasant for some people to be able to say, "This came from Count So-and-So's garden in Verona, and there is a story," etc. The result is that because of the incongruity of environment, the garden, the ornament and their owner all become absurdities. But a beautiful production, such as this, be it new or old, well placed can be a source of perpetual pleasure, and if it does possess historic or romantic associations they are an added interest, but have no garden value.

The other item, selected from a miscellaneous display of seats, vases, figures and others, that it is necessary to mention was a modern figure called "Cupid Awakening." This was an example of quite a different type. Modelled by a young lady, who has developed her capacity out of her own natural ability and without instruction, it betrays great promise of future accomplishments. There may be crudities in the finish, but for garden ornament these are not important. Fine lines are lost in garden surroundings, and the influence of the garden is to soften ruggedness and tone down harshness where such exist. In this little figure the garden has not much softening and toning to do.

The comparison and lesson to be drawn from these two is this: Antiquity cannot of itself take the place of art in the garden. The modern figure has its place, indeed more places in the garden than the more elaborate old wellhead can ever fill. The use of ornament is too often misapplied in the garden. It must never be allowed to take the place of gardening, but used properly it can enhance the beauty of the finest conception of garden art. As the centre of a symmetrical design, a focal point directing the eye along the line of truth in a long vista, for the embellishment of the more architectural developments of the garden it is in its place. A miscellaneous collection dropped haphazard in every direction will ruin the best garden scheme, and create a sense of that condition so admirably described by Byron: "Wealth hath done wonders—taste—not much."

Let us remember also that the very appreciation we of this generation bestow on the beautiful in the art of bygone ages proves that the power and truth of such art is not dead, that there is nothing the ancients have produced that we cannot achieve.

Another exhibit, by Mr. Herbert Jones, was also much appreciated. In this case every example was frankly modern, and just as frankly disguised to look old. I have wondered sometimes, while watching the slow and tedious process of manufacture in his quarries, in which every ornament is hand made from the solid block of stone, whether he is justified in discolouring to the extent he does. The conclusion is the obvious one: it entirely depends on the situation in which the ornament is to be used. Much of the work is good; some original, some clever copies. If it is to be used in association with an old house in an old garden, or anywhere in conjunction with those "things that time hath bent," then it should be so treated as not to give a feeling of new cloth in an old garment, and "faking"—objectionable term—is justified. In new surroundings the tone of age is just as much out of place. There is nothing morally wrong in making a new stone look old if the intent is not to deceive, and in this case the vendor is much too proud of his work to pretend that it belongs to any period but his own. Seats, vases, sundials, wellheads, and every other form of garden decoration were to be found among this collection all in stone.

What is the most suitable material for garden ornaments in England? To my mind there are two that run each other very closely—stone and lead; both home products, both durable, both capable of withstanding our climatic conditions without deterioration. The finest collection of lead ornaments was that exhibited by Crowther's, with one exception, a beautiful lead cistern in the formal garden by Carter's, adapted as a fountain basin. This cistern was ideally placed, in itself a very fine piece of work, but I think was not improved by the four docile-looki lions—or were they dogs?—supporting it. a mind perhaps ultra critical in these matte it seemed to me that these lions were the supe fluity that marred the beauty. Crowded orname is liable to become grotesque, and in the garde where art and Nature meet so intimately, t grotesque is often akin to the ridiculous.

One word as to garden seats. I love a we designed stone seat for the picture it makes ar would not say a word to depreciate its valu but comfort, especially in a damp climate, desirable also. For real utility there is nothin to equal a solid oak or teak seat, and so far Castle have led the way in turning out this garde necessity. There was nothing particularly ne in their exhibit, but the examples shown were a useful, neat and unobtrusive. This latter qualit is an advantage over the white enamelled artic in some cases. Glaring white disturbs the serenit of some garden scenes. There are, howeve places in the garden where a white seat can b made to serve two purposes: to bring into focu a distant vista, and to form a point of rest com manding a view of the reverse of that vista Castle's also showed useful tables for garden use A shadow checkered lawn, a comfortable an durable chair, a table spread with a light repas perhaps the fruit of the garden itself, speak of rest and refreshment to the tired man afte the day's strife in the City, and should form an adjunct to that "evening garden" s eloquently described by "P. H." in THE GARDEN of May 28.

THE FLOWERING OF IRIS SARI

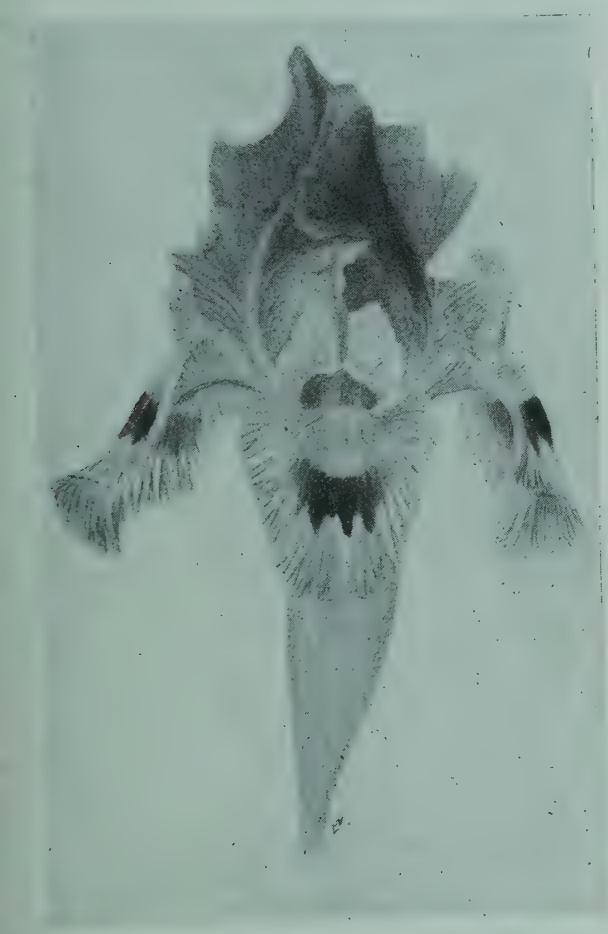
ATTEMPTS to cultivate Oncocyclus Irises have so seldom met with success in this country that it seems, perhaps, worth while to record a case in which a plant of Iris Sari has been in cultivation for ten years and borne flowers in the present season. The plant came to me originally from Asia Minor in 1911 and flowered in my garden at Godalming in the following year. It was treated in the same way as I treated the fairly large number of Regelia Irises and the few Oncocyclus species that I cultivated; that is to say, that I planted the rhizomes early in October and dug them up and dried them off soon after the flowers had withered. In those days I was always in a hurry to dig up the rhizomes from fear lest the root-thongs should have begun to branch and throw out their lateral rootlets. So anxious was I to avoid this that I used to dig up my plants quite early in June, and I failed, at first, to realise that this was the reason why the rhizomes did not remain plump and firm until October, while the roots dried up and withered away.

However, I began at length to see the error of my ways and persevered with the plants, though more than once I was tempted to throw them all away because the reward in flowers was so poor. I saw that if the rhizomes and roots were to remain sound and plump when kept out of the ground until October, they must be thoroughly matured before they were lifted. I therefore postponed and postponed this operation in each succeeding year until I finally put it off till the middle or latter end of July. The results were excellent, for the plants dug up at this period could be left lying on the ground in the open as they were dug for a few days or a week. They remained quite sound, and, when the leaves had withered and

been trimmed away, the rhizomes could be stored in a dry, well ventilated place until October. Then they were replanted in rich, well drained soil, not deficient in lime, and the crop of flowers was abundant in the following year.

Under this treatment Regelia Irises have flourished exceedingly, while rhizomes of I. Sari, which had grown weaker and weaker, have regained their strength until they are once more of flowering size. The flowers of this species are remarkable even for an Oncocyclus species, and the accompanying sketch gives a good idea of their general appearance; while the colour scheme is a combination of browns and yellows which once won for the plant the name of lupina, the wolf.

The standards are heavily and closely veined with dark chestnut brown veins on a grey-white ground. In the lower part the ground colour is clearly visible, but towards the top the veins spread and become confluent so as to cover the whole surface. On the inner side there is a beard



IRIS SARI.

The First Bloom for Ten Years.

of long hairs, which are greenish yellow at the base of the haft and dull lavender further up.

The falls are veined with spreading, blotchy veins of a paler shade of red brown on a pale greenish yellow ground, and the veining becomes thicker and more prominent as it approaches the edges. There is a conspicuous signal blotch of deep brownish red of roughly semi-circular shape with several blunt, projecting points. The beard is greenish yellow, flanked on either side by numerous dingy lavender or purplish hairs, so that it appears to be very broad and spreading.

The veining on the style-branches is very similar to that of the falls, and the long green spathes have the disappointing habit of all the Oncocyclus Irises of producing only a single flower.

The stem is a few inches only in length, and the foliage is of the narrow falciform type, which is so characteristic of the group.

I. Sari was discovered by Kotschy in Cilicia in 1854 and was named after the river Sar, in the specimens show that it varies a good deal in colour, but the shape and veining remain typical.

My experience with the cultivation of this and other kindred Irises will certainly encourage me to persevere once more with Oncocyclus species, to give up any attempt to leave the rhizomes undisturbed and to pin my faith to the taking-up method. Even if we cover the plants overhead in summer and try in this way to keep them dry and prevent them from making new growth, it is impossible to keep the soil absolutely dry a foot or 18ins. down, and moisture there is quite enough to enable the rhizomes to start into fresh growth early in the autumn. It is this precocious growth which suffers so disastrously in winter, with the result that the plants are irretrievably weakened and rendered flowerless, even if they are not actually killed. W. R. DYKES.

CORRESPONDENCE

THE OAK AND THE ASH.

IN reply to my friend Mr. Heatley Noble's question, I think I do recall one year in which, had I been judge in the annual race between the Oak and the Ash, I could have given a conscientious verdict of "dead heat," but I fail to recollect the particular year, or whether the summer which followed was wet or dry. Few of our poets are as scrupulously accurate in regard to Nature as Tennyson, and Mr. Noble will remember the Swallow Song:

"Why lingereth she to clothe her heart with love,
Delaying as the tender ash delays
To clothe herself when all the woods are green?"

—JOHN EDWARDS-MOSS, *Henley-on-Thames.*

WHAT IS A BORDER CARNATION?

WITH Mr. Douglas (page 285) we, too, admire the Border Carnation as a most perfect flower for the exhibition table when grown under glass, but few people expect to devote greenhouses to them; as its name denotes, it should be a hardy outdoor plant. The original letter of "London Carnation Amateur" (page 186) endorses this; also their all too brief summer-flowering period places them at great disadvantage in comparison with other sections of the Carnation. It is a fine thing "to hand down the type to posterity as pure as received from their fathers," but we consider it a still finer thing to improve upon it. We contend that there should be Carnations of every type and description like we have in the Rose and Orchid; we would have climbing Carnations and little dwarf ones, Malmaison and single flowers, fringed and smooth edged petals; in fact, we have not yet commenced to develop the divine flower. In face of all this, what is the National or any other Carnation Society doing? As for the National and all the other various Carnation Societies, they are too conservative and live on the past, not for the future; their membership and balance sheets prove it. If they were progressive they would all pull together and form one strong society, and hold shows like those of the National Rose Society, where thousands attend and where progress is made both in the flower and its popularity. It is Mr. Douglas' contention that the life and soul of special societies is to keep their breed pure, but history proves that when this is closely followed out, deterioration takes place rapidly, even to the point of non-existence. We should be most sorry to see the Border Carnation do this; yet to-day it is not so popular as it was a generation ago. It may be of interest to Mr. Douglas to know large as our sales of Border Carnations are, they are already exceeded by the new Perpetual Border by at least twenty to one, and the public alone are the judges of their hardiness, perpetual-flowering qualities out of doors from May to November, and their all round superiority over the old Border type. Undoubtedly when the trials of hardy Carnations are [illegible] we shall have the pleasure of seeing Mr. Douglas' Carnations included. The proof of the pudding is in the eating, and the test of a good garden Carnation is judged by results in the garden and what you can obtain from it.—MONTAGU C. ALLWOOD (of Messrs. Allwood Brothers), *Haywards Heath.*

AN IDEAL BULBOUS PLANT FOR THE COOL GREENHOUSE.

I KNOW nothing personally of how Brodiæa ixioides fares when grown outside in a border or in the rock garden, but if it is grown in a very cool greenhouse it makes a delightful subject for cutting for vases. It is not every flower that would last two weeks in water in the May that we have just had, yet this is the record of Brodiæa ixioides in my house. The buff yellow starlike flowers are borne on umbels set on stems from 12ins. to 18ins. long. Each petal has a stripe of green down its centre, which has a very pleasing effect. The first generic name to be given this bulb was Calliprora, from which it gets its English name of "Pretty Face." To anyone who is looking out for something for cutting which is a little out of the ordinary run of such things I can recommend a trial of this easily grown bulb. Unfortunately, few British dealers have it in their lists, but doubtless, if asked for, it could be procured. It is well worth taking some pains to get it.—JOSEPH JACOB.

THE PROBABLE ORIGIN OF THE PINK ARTHUR BROWN.

IN your admirable report of the great Chelsea Flower Show in your issue of May 28, when referring to Mr. C. H. Herbert's fine new Pinks exhibited, the report states that Progress, from which all the varieties exhibited are descended, was raised "by crossing two old and now unknown Pinks, Robert Houlgrave and Arthur Brown." The statement is correct as to the facts, which have been related to me by my old friend Mr Herbert on several occasions, but is incorrect *re* my Pink namesake, Arthur Brown, being now unknown, as it is at present coming into bloom in our nurseries, was catalogued in our Pink list for 1920–21, and is also in the present catalogue of Mr. James Douglas. The history of this variety may be interesting to the readers of THE GARDEN as one of the ancestors of this fine race of new Pinks. In December, 1892, Mr. G. Chaundy, of Oxford, well known to Carnation growers in those days as one of the assistants of the late Mr. E. S. Dodwell, and in after years as the raiser of some of the best of the old florists' Carnations and Picotees, wrote me that he had raised a promising new Pink and would send me some pipings if I cared to try it. I asked him to do so and the pipings arrived, but, though well rooted, they were so thin and weak that I thought they would do no good. There was snow on the ground at the time, and I simply scraped a hole in the snow, planted them in the bed, and drew the snow over them again. However, the little plants lived, and though they were too weak to bloom the following season, the next one saw them very

strong, and the first bloom out told me that we had got an acquisition. I wrote to Chaundy to tell him that I thought his seedling was a "clipper," also telling him that I intended to show it at the two National Pink Shows at Wolverhampton and Manchester the following week, but I required a name for it. He replied at once: "If you think it good enough to be named Arthur Brown, do so; if it is not, call it what you like." The Pink was named after me, was awarded first and second prizes in the Purple Lace Class at the Midland Section of the National Pink Society at Wolverhampton, and at the Northern Show at Manchester on the Saturday again received a first-class certificate and the premier prize for the best Pink in the Show; the premier at Wolverhampton having been won by the other progenitor of Progress, Robert Houlgrave, a variety, I believe, now extinct. In writing these few notes, recalled by your report, the following idea has occurred to me: To my knowledge George Chaundy was not a grower of Pinks, but his employer, Mr. Dodwell, grew a few from which he raised some seedlings; one of which, Purity, received a first-class certificate when exhibited by me at the National Pink Show of 1895. The seed, I believe, was given to Chaundy by Mr. Dodwell, from which Arthur Brown was raised. It seems to me to be a feasible idea that with the thousands of Border Carnations grown in the gardens of E. S. Dodwell and George Chaundy that the Pink from which Arthur Brown was produced had been accidentally crossed with a Border Carnation, thus accounting for the habit and break in colours of Progress and its descendants. The high quality of Mr. Herbert's Pinks being also credited to the Border Carnation blood, while the Perpetual Carnation cross in Allwoodii proves my theory even more, as their free blooming habit, but less smooth blooms, show about the same difference as there is in the quality of the Border Carnation and the freer blooming of the Perpetual Carnation. Stating this theory to a friend, he suggested that the Carnation blood in Arthur Brown perhaps came through my nickname, Carnation Brown. At any rate, the fact remains that Mr. Herbert has introduced into the Pink the diversified colours which have always hitherto been lacking in "the pink, of smell divinest," and through his efforts—allied with those of Messrs. Allwood, Ladhams and Douglas, all bent on improving the flower, though individually working on different lines—we may hope to see during the next decade as great an improvement in the Pink as there has been in the Carnation.—ARTHUR R. BROWN, *Wychall Nurseries, Norton.*

THE BERGAMOT MINT.

I WISH I could emulate the hawker who is lucky enough to find Mentha citrata upon "the banks of streams and riverside" in the Thames Valley (THE GARDEN, May 7, page 223). It is surely a scarce plant in that district? Of the counties bordering the Thames I find no mention of M. citrata in the most recent "Floras" of Essex, Kent, Surrey, Middlesex, Berks, Oxford and Wilts. For Bucks we await Dr. Druce's promised volume. The delightful scent of this Mint should secure for it a place in every garden; here it thrives and flowers in dry as well as moist places.—C. E. SALMON.

A LATE-FLOWERING THYME.

THYMUS COMOSUS is one of the best of its race. The flowers, which appear in the later summer when most of the other kinds are past blooming, are considerably larger than those of most of its relatives and of a bright rosy purple. This Thyme is quite hardy here in light soil; it strikes readily from cuttings and grows rapidly.—A. T. J., *North Wales.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Shrubs, such as Laburnum, Lilac and Weigela, should, as they complete their flowering growth, be cut over and given such pruning as may be necessary, so that new growth may get every possible chance.

Plants in Tubs.—These have been placed in their summer positions, and such subjects as Ivy and Scented Pelargoniums, which are trained on wires or other supports, should be encouraged to quickly cover the same by careful attention to watering and feeding. Agapanthus and Hydrangeas which have been some years in the same tubs, especially, need extra feeding and watering.

Seed-Sowing.—Seeds of various Campanulas, pyramidalis, lactiflora, persiciflora, should be sown now in pans or boxes of light soil in cool quarters; also sow seeds of perennial Lupines, Delphiniums and of the Tree Lupine, L. arboreus, white and yellow; the latter being such a quick grower is very useful for an early effect in large beds or borders; where it is possible to plant Cheiranthus Allionii with it, the result is very good.

The Kitchen Garden.

Late Peas are sometimes almost as greatly appreciated as early ones and should be given every possible chance. See, as for the earlier crops, that the ground has been thoroughly well prepared, and it is an advantage to grow the late ones on a plot away from the others so that should mildew develop precautions may be taken to deal with it more easily than would be the case were they growing side by side with the mid-season ones. Earlier sown ones on light soils should be mulched to conserve moisture. Failing manure, lawn mowings, either alone or mixed with leaves, will answer quite well.

General Work.—Leeks sown early are now ready for planting out in rows 14ins. to 18ins. apart with 9ins. to 12ins. between the plants. Assist autumn-sown Onions with a dusting of soot or sulphate of ammonia, afterwards using the hoe. Make a final sowing of Runner and climbing French Beans. Sow Rosette Coleworts, Cabbage and plant out early Brassicas as room can be found.

Hardy Fruit Garden.

Cherries growing on walls should, previous to netting, have those shoots which are required as leaders or for extension, made secure, and other growths may be pinched. A good wash down with clear water should be given before the fruits are too far advanced, and see that the roots are sufficiently moist and apply a mulch if necessary.

Apples and Pears.—Where heavy crops of fruit have set, thinning must be attended to, especially on cordons or on trees at all weakly. There is no doubt that where time and labour are available the practice of thinning ought to be more widely adopted even upon strong and well established trees. It cannot possibly be beneficial to the trees when they are left with each bough hanging with clusters of fruit, for a larger portion must inevitably lack their proper share of nourishment and sunlight, and only too frequently the result may be seen when such produce is offered for sale to the public.

Plants Under Glass.

Cyclamen.—In potting on young plants avoid burying the crown too deeply. A cold frame with an ash base suits Cyclamen plants well during the summer months, and they should be frequently sprayed and shaded from bright sunshine. A suitable final compost is two parts good fibrous loam with one part leaf-soil and one part dried cowdung broken up finely. Add some sharp sand, a small portion of wood-ash and a 5in. potful of bone-meal to each barrowload of soil.

Fruit Under Glass.

Figs ripening should be kept in a somewhat drier atmosphere, but it is not so essential to entirely cease syringing as it is for Peaches. Fig trees are often subject to attacks of red spider, and rather than let this pest get a sure footing, it is much better, after removing the ripe fruits, to give the trees an occasional thorough syringing even at the risk of spoiling a few ripening fruits. The roots of the trees, unless growing in very restricted quarters, can safely be kept a little on the dry side until the major portion of the choicest fruits are removed.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—With the leafy month of June comes innumerable jobs pressing on the time of the gardener. Particularly is the planting out an anxious but interesting time. See that all bare places are made the most of by planting with useful subjects, while much time must be given to the hoeing and cleaning of walks and other places. Staking of Peas should always be attended to before they incline to fall over, and where Beans are of a good height strings should be run down each side of the rows and so support in this way. Necessary thinning of Parsnips, Beet and Salsify should also receive attention.

Spinach.—Regular sowings of the Victoria variety should be made, a suitable site being between rows of late Peas. This type is superior to the ordinary round sort.

Peas.—No time should be lost in making the final sowing of late varieties, as we find it almost useless to sow those sorts in our district after this date. Rather revert to earlier varieties, such as Gradus or The Pilot, should a later sowing be made.

Savoys.—Plant out now on a piece of well enriched ground, as this Brassica enjoys and deserves good cultivation, coming in as it does during the winter months when most of the Cabbage family are finished. The large-growing sorts, such as Ormskirk, should be allowed quite 2ft. between the rows, but 18ins. is ample for the dwarf varieties.

Asparagus Kale should also be got out now, and proves a favourite vegetable during the spring months.

Potatoes.—Continue the cultivation of the ground between the rows, earthing up as becomes necessary. Where the soil is of a loose nature the small hand plough or driller is most convenient, making a tidy job and saving much time and labour.

Plants Under Glass.

Cinerarias.—A sowing of these may be made in cool quarters, frame culture being quite suitable, and in this way fine firm foliaged plants may be raised. Protect from cold or exceedingly wet weather. Cactus-flowering sorts have become popular, but for large showy plants the stellata type are best. Exercise care in transplanting the seedlings, avoiding overcrowding in the boxes. Pot on into 4in. pots immediately the plants attain a suitable size.

Chrysanthemums.—Complete the final potting of these as soon as possible, using a mixture of good rough fibrous loam with a percentage of leaf-mould and wood-ash, adding a light sprinkling of Thomson's Plant Manure before turning the heap over. Pot firmly and so encourage stocky growth. Spray overhead for a few evenings should the weather be hot and dry.

Zonal Pelargoniums which were struck early with a view to autumn or winter flowering should now be moved into their flowering pots and placed in a cool frame. After they commence growing freely pinch judiciously and so ensure nice bushy specimens, the bright flower trusses of the Zonals proving a welcome addition to the conservatory during November.

Tuberous Begonias and Fuchsias will now be taking the place of the spring-flowering plants, so should receive some liquid manure to strengthen and prolong the flowering period. Stake out free-flowering Begonias and let each shoot enjoy the light and air so that the plants give of their best.

The Flower Garden.

Roses.—Growth will now be rapid in the Rose garden, and attacks of aphis may be averted by timely spraying with Quassia. Keep a sharp look-out for maggot, looking over the bushes frequently, otherwise many of the flower-buds may be destroyed. Keep the soil in the Rose beds well stirred with the Dutch hoe, while regular cutting of the grass and edges ensures tidiness.

Polyanthus which were lifted from the beds in the flower garden should be divided and planted in a shady corner to complete their growth, while those raised from seed sown earlier in the season will also be transferred to the nursery border. An occasional watering with liquid manure or soot water during the season adds considerably to the strength of the plants.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

A NOVEL WAY OF GROWING ASPARAGUS

Heavy soil no longer a bugbear—Two birds killed with one stone—Soft garden refuse found to be a friend in disguise

THERE are some gardens which have a stiff, unkindly and rather damp soil which it is difficult to drain and keep dry in winter and where Asparagus is impossible to be grown with success. A good tale, which is also a true tale, told me by one of the actors in it, illustrates this. A head gardener who was giving up his job on account of old age was showing his successor round and among other things mentioned that the soil of the garden was very damp, stiff and unkind and he never could grow decent Asparagus. "What!" said the new man, "can't manage Asparagus. I'll eat my shirt if I don't." "Take care, friend," said the old man, "if you don't have to eat the buttons as well." The old man has several times visited his old charge and when I last saw him told me he believed his successor was still living on shirts and buttons, for the boasted Asparagus was *non est.*

The routine I am about to describe makes it possible to grow decent stuff anywhere. I have seen it in operation and although I am neither a vegetable grower nor a chef, I know what is good when I come across it and I can say or rather I would like to say what a famous beauty said of a certain soap. "I never use any other." The man who invented this scheme of successful Asparagus growing is Mr. Joseph Mallender of Scrooby—the home of one of the most famous of the Pilgrim Fathers, William Brewster. He is a grand old man, just the sort of person who might have joined William Brewster had he been living then; keen and observant, and despite his three score years and sixteen, ever ready to learn. He picked up what I may call the Mallender system some years since by keeping his eyes open. I forget what exactly gave him the tip, but something did, and forthwith he put his plan into practice. The essential is a bit of ground which as time goes on will allow a long straight bed to be formed. A start is made by digging a pit 4ft. wide and from 2ft. 6ins. to 3ft. deep. It can be made any length to suit the amount of soft garden refuse that the garden produces. Nine feet long is a useful length. The soil that is dug out of this first excavation is scattered over the garden anywhere, and then the pit is ready to receive all the weeds, all the tops of herbaceous plants, all old Cabbage stalks and Turnip tops, everything; in fact, hard wooded waste, such as the prunings of fruit trees. Gradually the rubbish fills up the hole to the ground level or 2ins. or 3ins. above it. As soon as this happens, another pit of the same width, depth and length is made to join on to the end of the original one. The best soil from this is placed on the refuse to the depth of 18ins., and the rest scattered about. So the process goes on from year to year, new pits being tacked on to one another as often as the amount of refuse requires them. No manure is wanted. A light dressing of salt in the early spring is all that is requisite. Grand Asparagus is produced. Weeds and green refuse are no longer a problem. The ever lengthening bed has an insatiable appetite. The awkward refuse heap does not exist. It has been harnessed, and the result is tip top Asparagus in abundance. When the plants are put into the ground, an ample space is left between each. I think, to be exact, it is either 1ft. or 15ins. from one crown to another. No "grass" must be cut until a plant is three years old and then for the first time only a small proportion of what is thrown up. The reason why this is always insisted upon as of prime importance is the necessity for building up good strong plants in the early years of their growth so that they will be able to stand the strain of giving a good return in the future. Asparagus is by many considered to be the king of edible vegetables. It has been grown, and even forced, for centuries in British gardens. The owner of my copy of Stephen Blakes "Compleat Gardener's Practice," 1664, took the trouble to copy on the back of the plates some family directions dated 1654 and 1653. His "Brother Brown about Flowers"; his "Mother's Directions about Sparagras"; and "Cadman's Directions" about Skirats, Sparagras, and one or two other things, but mainly about Sparagras, thereby I think showing the estimation in which the unknown brother and son held this vegetable. The large space given up to details or directions about its management, speaks volumes. Blake himself calls it Sparrow-grass. In the text he is more concerned with "the way of producing it early by raising of it upon hot beds." Hence the necessity of "the owner's" Grangerising old Blake.

It might be equally worth a while modern grower Grangerising his Beckett or his Robinson with my friend Mallender's directions. JOSEPH JACOB.

Some of the Newer Polyantha Roses

THIS delightful group has received some very excellent additions during recent years. It is not surprising these Polyantha Roses are so popular, for they keep our borders gay for a very lengthy period. Even in October they sometimes make quite a grand display, especially where they have been hard pruned, for then the basal growths are encouraged and they continue to appear until frosts come. One of the finest of the novelties is

Koster's Orleans.—It is a counterpart of the old Orleans in all save colour. This is a brilliant scarlet red. I imagine it will be largely planted, for there is no finer variety from a colour point of view. We had formerly to depend upon Jessie for this colour, but it is an unsatisfactory Rose; so many of the clusters simply will not expand their flowers. Another good variety is

Miss Edith Cavell.—Here, too, we have a bright scarlet with large white eye, and I predict for this variety also great popularity.

Eblouissante is on somewhat different lines. It comes nearer to the China or Monthly Roses; albeit, the clusters are large and compact. The colour is very brilliant and effective.

Etoile Luisante has charming Cactus-like flowers, when developed, of a beautiful cerise, shaded orange and flame.

Verdun is a good red with fine conical clusters of flowers.

Baby Lyon is a wonderful colour, after the style of Lyons Rose; but its habit is so weak and has evidently suffered by the crossing of Pernetianas and Polyanthas. It is useless obtaining these remarkable colours if we lose the vigour or sturdiness of growth.

Perle is a gem. It is a dainty blush white with flowers quite large, double, yet in compact clusters. Something resembling Baby Tausendschon, only paler.

Mme. F. Faire.—This is a single variety of really remarkable appearance. The plant is very strong and of dense growth. The colour is bright scarlet with white eye. It seems to belong more to the Chinas, but whatever class it belongs to, it is a real acquisition, and I can recommend it for bedding with such kinds as Comtesse du Cayla.

We now want a good deep yellow, flowering in clusters. It has been suggested to me that one might use Christine to mix with beds of Polyanthas. D.

CHRISTINE: A GOOD ROSE FOR CONTRASTING WITH POLYANTHAS

THE AMERICAN ROSE ANNUAL

The Most Popular Roses

As the American Rose Society increases in membership and popularity, so the "American Rose Annual" seems correspondingly to increase in bulk and interest. While the articles on "Special Roses" and "Our Native Roses" will appeal to scientifically inclined members, there is plenty of useful information and education for the ordinary as well as "the backyard Rose grower." The descriptions of Roses growing in the various parts of the United States emphasise to British readers the extremes of climate in that country, varying even more than what would here correspond with the North of Scotland to the South of France.

America is nothing if not go-ahead, as one can see by the chapters proposing Roses for, among many other things, beautifying highways and for suggested hospital Rose gardens. Test gardens seem to abound, but one misses the usual reports on the results of the testing, the progress that is being made generally, and descriptions of the latest plans and ideas. Yet another test garden has been established at New Rochelle, New York. Is this their tenth garden, and when shall we see the first British Rose test garden established?

The same Roses seem to be popular in the New World as in the Old, and from a census of the most popular Roses taken throughout the country the following interesting results were elicited:—

Among Hybrid Teas Mrs. Aaron Ward gained first honours in the New England and also the Central States. Ophelia was first in the Middle and Southern States, and Mme. Edouard Herriot and Los Angeles jointly secured first award in the Western States. Of Hybrid Perpetuals Frau Karl Druschki was conspicuously first everywhere, while among climbers the first honours were awarded to Doctor Van Fleet, Dorothy Perkins, Tausendschön and Excelsa. Among the popular Roses of the United States one seems to stand out prominently which we do not know in this country, namely: American Beauty.

Reference is made to the useful testing work done at the Bagatelle Garden, Paris, where, on June 7 last year the gold medal of the French Rose Society was awarded to Souvenir de Claudius Pernet, raised by Monsieur Pernet-Ducher, and, although several English Rose growers were present at the judging, we, unfortunately, seem to have had no reports here.

As an example of the keenness and up-to-date methods of our American cousins, a three weeks Rose tour is suggested for 1922, under the auspices of the American Rose Society, the idea being to visit the great Rose gardens, Rose cities and test gardens of the United States.

Under the heading of The New Roses of all the World the following note appears:—"Continuing the world enquiry instituted last year, there is here presented what is believed to be a reasonably complete list of the new Roses introduced to commerce or described by the originators since the 1920 Annual went to press."

The list of new Roses will be found most useful, tabulated under the headings of the different countries of production. Probably many of the novelties will never be heard of again.

The American Rose Society also seems to have seriously tackled the problem of nomenclature by keeping its own register and refusing duplicates; in fact, the Society must be congratulated on the soundness of its good work "to nationalise the love for Roses in America with a Rose for every home and a bush for every garden."

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

DELPHINIUMS AND OTHER FLOWERS UNSATISFACTORY ("Eltham.")—On a very light soil all planting should be done as firmly as possible and hoeing the surface should receive frequent attention in order to conserve all the moisture possible. When preparing such soils it is well to add, in the absence of farmyard manure, a deal of humus, such as leaf-mould, as this acts like a sponge in holding moisture. The best present treatment for the perennial plants is to top-dress them with animal manure, if this can be had, and to apply sulphate of ammonia to encourage growth in the backward plants at the rate of 2 oz. to the square yard, raking it into the surface soil. Wood-ashes will be found very beneficial on a light soil if applied at the rate of about 1lb. to each square yard. It is rather late to sow Schizanthus with the expectation of their flowering this year, but if we have a hot summer they probably would do so. We suggest sowing half the seed now in the frame and the remainder at the end of August, for blooming next spring. The plants will winter in the frame if it is well covered up during cold weather.

VIOLETS FOR FRAMES (R. S. E., Canterbury).—It is rather late in the year to propagate Violets for frame cultivation, but if young plants or rooted runners can be procured these should be planted out in the garden in rows about 1ft. apart. The Violet will thrive in any ordinary good garden soil that is not very heavy. Should it be of a clayey nature it would be well to make raised beds and lighten the soil. Throughout the summer the culture consists chiefly in removing all runners as soon as they are perceived, in order to get stocky, single-crowned plants as far as posible; in frequently hoeing the surface soil and in spraying daily with clear water to prevent red spider infesting the foliage. About the middle of September the plants should be carefully transferred to the frames. When lifting, take care to get a good ball of soil on each plant; this is best done during dull weather. The frames should face south, and in order to benefit by all the sun that shines during the winter, should be more sharply pitched than is usual. Plant firmly, keeping the plants as near the glass as possible, and water well so as to settle the soil, but do not place the lights over the frames until frosts render this protection necessary. Abundance of fresh air is essential, night and day, except during the coldest weather. Timely advice on treatment at the various seasons will be found in our "Gardening of the Week" columns. Princess of Wales is probably the finest of the single Violets, while Princess Beatrice is valuable on account of its lateness in flowering.

CROPPING A QUARTER OF AN ACRE GARDEN (V. P., Haslemere).—The loamy soil of which the garden consists is well suited to the growth of most garden crops. A tiny plot of land at north of cottage at present empty our correspondent might have deeply dug and generously manured and then a few rows of Carrot (stump rooted), Beetroot (turnip-rooted), Lettuce and Mustard and Cress could be sown. These will turn in good time with care and attention as to watering and keeping clear of weeds. A little more space should be given to vegetables next year. We fear our correspondent could not do much good by planting anything among the Currant bushes. The soil must be full of their roots and if these are disturbed the bushes will suffer. The Wistaria would be benefited if a top dressing of well decayed stable or farmyard manure (with the same quantity of loamy soil added to t), were now applied to the surface soil over the roots as far as it is thought they extend, taking off a portion of the old surface soil before applying it. A bird bath among the trees would be delightful. Water plants delight in plenty of sunshine as a rule. Our correspondent might try the Water Violet (Hottonia palustris) Water Anemone (Ranunculus aquatilias) and a plant or two of Watercress, Water Flag (Iris Pseudacorus). There is a large choice of flowers suitable for planting out now, from which a good selection could be made, including Hollyhocks, Dahlias, Phlox, Pyrethrums, Antirrhinums, Pentstemons, Violas, and including all those our correspondent suggests. The plants should be in pots, if possible; they succeed so much better afterwards. It is not too late to sow Mignonette, or young plants may possibly be had in pots, which would be better.

GREENHOUSE.

SCARLET TACSONIA UNSATISFACTORY (Woking)—Being a young and vigorous plant accounts largely for the abundant growth. Thin the shoots now as much as convenient, to get those remaining well ripened. With a further shortening in winter, but not too hard pruning, which would again induce too much new growth, flowering should follow next year.

FRUIT GARDEN.

ROSEBERRY APPLE (J. H. R., Taplow).—We presume that the above so-called Apple must be a local variety and given this name by its raiser. It is not included in any list of British grown Apples we are acquainted with. It may be that this Apple has been confused with the one of the name of Rosemary Russet, a well known sterling old dessert Apple, ripe from December to March. The skin of this is slightly rough, its ground colour being yellow flushed with rosy copper. Its flesh is rather leathery, its flavour rich and aromatic. If our correspondent will send us a sample or two when ripe, we can tell whether it has a synonym or not.

PEAR TREES ATTACKED (Barker).—The trees are attacked by both brown rot and scab. All shoots and spurs showing cracks in the bark should be pruned off and burned, and the tree should be sprayed just before the buds burst, and again as soon as the petals have fallen, with Bordeaux mixture.

APPLE TREES ATTACKED (F. K. H. and H. M. C.). The Apple shoots are attacked by Apple mildew and by aphis. For the former, which forms a white mealy powder on the leaves, the best treatment is to prune away infected shoots; for the latter, spraying with a nicotine wash should be carried out.

DAMSONS SUITABLE FOR A SHADY POSITION (Dunmow).—We think that Damsons would succeed better than Plums under the conditions stated. The following are the best varieties. Merryweather Damson, very large and the tree fertile; Frogmore, early and very sweet, also prolific; Langley Black Bullace, large and prolific and good in every way; Prune Damson, a very old variety, unequalled for flavour when ripe.

GRAPE VINE UNSATISFACTORY (P. H. T., Surbiton).—So far as we can see from the specimen sent for examination the Grape Vine is suffering from lack of water or from being kept too closely shut up in the greenhouse. Possibly ventilation is not seen to sufficiently early in the morning.

PEACH, PLUM AND FIG TREES UNSATISFACTORY IN POTS (E. S. Windsor).—To be successful in the growth of these it is necessary for whoever has charge of them to have had considerable experience and some training under a practical expert in their growth. Our correspondent says that the trees growing in borders in the same house are fruiting all right. This, we think, points to the fact that watering has been at fault. Once any of these fruits growing in pots are permitted to become too dry while bearing fruit, success in their growth is out of the question.

KITCHEN GARDEN.

TOMATOES DISEASED (K. M. A., Newmachar).—The Tomatoes sent are affected with the trouble known as blossom-end rot. This is due to bacterial attack through the cracked skin of the fruit just where the style is attached. All fruit showing the blackening should be picked off and burned, and every means possible should be taken to prevent the fruit from cracking. If the watering is carried out regularly, the ventilation good (ventilation should be kept on night and day), the plants watered weekly with a solution of ½ oz. sulphate of potash to the gallon of water, this cracking of the fruit should be obviated.

MISCELLANEOUS.

PRONOUNCIATION OF PLANT NAMES (B. B. R., Maidstone).—The correct pronounciation is Schiz-anth-us, though Schi-zan-thus, the "i" being a long vowel, seems to have the sanction of usage. In plant names, according to Nicholson in the Pronouncing Dictionary Supplement to his well known "Dictionary of Gardening," "ch" should always be hard, as in Christian, so that "Schi" should be pronounced "Sky."

THE USE OF WOOD ASHES AND OTHER QUESTIONS (E. M. H., Bridgetown).—Wood ashes are rich in potash and consequently valuable in the garden. If the supply is limited it should be applied first to leguminous plants, especially Peas, in the kitchen garden; to such as Roses and Sweet Peas in the flower garden, and to Peaches, Pears Cherries and Plums in the fruit garden. Unless it can be used as soon as made, wood ash should be kept under cover, as the potash is soon washed out by rains. As a top dressing, mixed with an equal quantity of fine soil, spread evenly over the surface, it is excellent for lawns. The liquid manure coming from stables and byres is generally far too strong to be safely used directly on the land, though this, naturally, depends on the quantity of water employed for cleansing purposes and whether or not rain drains into the pits. It is a valuable manure if used discreetly and generally should be diluted with twenty times its quantity of water. In this form it would be excellent for applying to fruit trees in bearing and any garden crop that requires stimulating.

BOOK ON VIOLETS (R. S. E., Canterbury).—"Sweet Violets and Their Culture," by Richard Parker, published by Messrs. Mitchell and Co., price 6d., is an excellent little treatise. A larger work is "Violets, Pansies and Violas," by William Cuthbertson, Present Day Gardening Series, but this, we fear, is out of print though may be had at a secondhand booksellers.

BOOK ON CACTI (Birch Hill).—Mr. H. N. Ellison, Cactus Specialist, West Bromwich, publishes a catalogue of 1,250 choice named Cactus, price 1s., which he offers for sale. The best book on Cactus and their culture is by Mr. William Watson, published by Exchange and Mart, price 2s., post free 2s. 4d.

NAMES OF PLANTS.—T. L., Stetchford.—1, Cytisus albus; 2, Dianthus cæsius var.——C. F., Ascot.—1, Ceanothus dentatus; 2, Ceanothus Gloire de Versailles. ——W. W., Blackburn.—1, Noccæa alpina; 2, Silene maritima flore pleno; 3, Saxifraga Aizoon var. rosea; 4, Arenaria montana; 5, Saxifraga Aizoon rosea.—— H. B., Surrey.—1, Gaultheria Shallon; 2, Azalea indica var. amœna.

THE GARDEN

No. 2587.—Vol. LXXXV.]

NOTES OF THE WEEK

[June 18, 1921.

THE first fortnightly meeting of the Royal Horticultural Society after the great Chelsea Show took place at Westminster on Tuesday, the 7th, but with a difference! Well attended as these meetings are, there is still room for more visitors, and those who have opportunity of going to Vincent Square and fail to accept it, rob themselves of a great deal of delight and help. Opportunity is afforded of looking at not only the new or rare plant, but at more common—but not less beautiful—examples which find their way there from the great nurseries of the country. We recommend all who may wish to see how their gardens can be improved by the introduction of good varieties, and who desire to see how these plants can be grown, to make it their business to visit Vincent Square periodically. But it is wise to be ready to ask questions of exhibitors!

Lime and the Bearded Iris.—At the Iris Conference which took place last week a number of points relating to the successful cultivation of the Bearded Irises came under discussion. A few of them should be referred to for the general good. It is well known that lime is essential to the well-being of these Irises. Practically all the species are found growing on limestone formations. It was pointed out by Mr. W. R. Dykes that the bacteria which are responsible for the rot disease of the rhizomes multiply amazingly in lime, and consequently if there is evidence of this trouble ordinary lime should not be applied to the surface of the beds. Superphosphate of lime, on the other hand, is fatal to these bacteria, and a top-dressing will generally stop the mischief. If the plants are badly attacked it is recommended that they should be taken up, all the affected parts cut right away the cut portions being rubbed with superphosphate, and the plants given a fresh site. Irises will not flourish in a waterlogged position. If the soil is heavy the beds should be elevated above the normal level or even thrown up in banks so that efficient drainage is secured. The best time for planting is shortly after flowering, July perhaps being the safest month, as new roots are then being emitted. The plants are thus able to take firm hold of their new quarters before winter.

Rhododendron Sunday.—All the world and his wife knows of Chestnut Sunday. But it is not so generally known that there is a movement to institute a Rhododendron Sunday—indeed, that last Sunday was the first of what we hope will become as well established in the mind of the public as the older institution in Bushey Park. Kew Gardens should be the chosen centre, and what more delightful spot could be imagined than the famous dell there early in June. The general public as distinct from the garden-loving public does not go to Kew as frequently as could be desired. Indeed, it can be conjectured that the vast majority has never been there. We are therefore glad of any excuse which will draw people to a place from which they cannot fail to benefit and through which they may learn to love what every reader of this paper has at heart.

The Gardens of Two Governors.—Lord Byng of Vimy is Governor-Designate of Canada in succession to the Duke of Devonshire. The one leaves the delights of the informal garden created out of chaos by Lady Byng, and the other returns to the glories of Chatsworth, famous through centuries. Could greater difference be found between the gardens which complete and beautify the homes of these two great men? Each has its own peculiar attraction; each can be taken as an example, and the two point the moral that there is joy in all forms of gardening. The gardens of Thorpe Hall have been made during the past six years. Good and wise use was made of existing, but sadly neglected foundations, and to-day the whole makes a very different picture from that presented to Lady Byng when she entered into possession. Good use has been made of the lake, the overflow from which is used to supply several ponds and has given further gardening opportunities. Our illustration is of a Gunnera manicata by the lake-side.

A Champion for Iris Clematis.—A recent note has provoked a vigorous champion to defend Iris Clematis and the hybridist. We hope others will enter the lists, and that they will not all be on one side! It is very remote from our wish to belittle the labours of the patient and painstaking workers to whom garden-lovers owe heavy debts; but it must be conceded that they do not always realise their own ambitions, any more than they invariably please the taste of all and sundry even when they produce what is evidently satisfactory to themselves. But where taste is concerned who shall be the final judge? Anyhow we think an interesting discussion should follow our correspondent's valiant defence of the criticised Iris

BY THE LAKE-SIDE AT THORPE HALL

FORTHCOMING EVENTS.

June 21.—Royal Horticultural Society's Fortnightly Meeting (two days). Lecture at 5 p.m. on the first day by Mr. E. J. Holland on "Scented Roses."

June 22.—Southampton Royal Horticultural Society's Rose Show. Croydon Horticultural Society's Annual Show

June 24 City of London Rose Society's Annual Show at the Cannon Street Hotel

THE BETTER GROUPING of RHODODENDRONS

Good Management is Necessary even with a Shrub which Asks Less Attention than Most. Given this, Success is Assured.

OF all the many beautiful flowering shrubs at present cultivated in this country, the Rhododendron family probably attracts the greatest attention. Chelsea and the fortnightly meetings of the Royal Horticultural Society have shown us progressively that a well flowered Rhododendron is a truly magnificent sight. It is unfortunate that in far too many cases their beauty is largely discounted by the indiscriminate massing together of various colours and because too little attention is given to ensure a sufficiency of space for proper development, resulting in monotonous and depressing jungles without form.

Few flowering shrubs associate more kindly with water, but here again jungle likeness too often spoils the effect. It is common to find a small pond surrounded by an impenetrable mass of Rhododendrons, all struggling to find light and with a circular island in a similar condition in the middle. Unfortunately this gives a totally wrong impression of these magnificent shrubs.

How different is the story in the accompanying llustration! Here, from the far side of the lake, he Rhododendrons give a bold and splendid plash of colour, contrasting perfectly with the delicate greenery of the tree foliage and adding very greatly to the beauty of the composition. A closer view shows that the form of the shrubs themselves has not been lost and that they are admirable either as the foreground or background to the picture.

It is difficult to understand why so many Rhododendron plantations have been allowed to become jungles. Owing to their root growth being shallow and close, there is probably no shrub which can be transplanted more easily. Rhododendrons may be moved at any time between September and April, and if reasonable precautions are taken, there should be no losses. Whenever, therefore, they show a tendency to grow into one another there should be no hesitation in taking them up and placing them elsewhere. If this is properly attended to, glorious colour groupings can be made and the shrub's true beauty of form retained.

Most Rhododendrons are lovers of at least partial shade, and where possible this should be considered in chosing their positions. With full exposure to strong sun the flowers quickly fade, and more especially if the bushes are small, which, because their roots are close to the surface, suffer considerable damage. This can be avoided, however, to a great extent by placing a mulch of leaf mould over the roots; or, if this is not available, a foot-deep layer of hard wood leaves will do all that is necessary for root shading and will at the same time give the Rhododendron its favourite food.

Overflowering must also be guarded against, resulting as it does in bad health and poor trusses of small flowers. It is astonishing what a difference a few flower buds removed in early spring will make. In the majority of cases they are easily distinguishable, being fatter and not so tapered at their bases as growth buds. The withered flowers also should be removed at the earliest possible moment to save exhaustion from seeding.

Probably Rhododendrons require less looking after than any other shrub or plant, but if it were always remembered that they do require occasional attention, a very different picture would be presented than is to-day seen in the vast majority of places where they are grown.

It should be mentioned that these remarks refer to what are commonly known as hardy hybrids, which the amateur will do well to study and practise on before turning his attention to the delights and disappointments of the species and their more delicate children. J. B. S.

EFFECTIVE WATERSIDE PLANTING.

The After Care of Recently Planted Fruit Trees

I SUPPOSE there has scarcely been a time in the history of our country in which so many fruit trees have been planted in the space of a few short years as has been the case since the war ended. This is all to the good, and the best of all evidence, because it is a practical one, that we are at long last convinced as a nation of the fact that an abundant harvest of home-grown hardy fruit is one of the greatest blessings we can enjoy and work for.

Planting a tree is one thing, and success in its future growth is another. In my younger days, seventeen years of my life were spent in a garden in Staffordshire (Drayton Manor). It was then a tradition among many old gardeners in that county that there was a dead and a live hand in planting, not only fruit trees, but plants and trees generally. There is no doubt in my mind as to there being a modicum of truth, at any rate, in such tradition. But the truth does not lie in the fact that some men and women are born with this disability, but points rather to the fact that the dead hands have no special love for the trees they plant, or aptitude for their planting, and therefore do not devote the time and labour required in preparing the soil, or in the act of planting itself. Let us hope that most of the trees planted of late have been planted by live hands, and that the same care will be devoted to their service for the next few years, until the roots of the trees have taken a firm anchorage of the soil.

Fruit trees planted during the past winter and spring have been subjected to more than usually trying times. Since February we have had a remarkable spell of warm, and on the whole, dry weather. These conditions will prove favourable to those trees planted by live hands, because the soil, through foresight before planting, will be in that condition of readiness to receive the immense number of young surface-feeding roots which will have been formed early in spring, consequent on the abnormal warmth. The live planter invariably finishes his planting by adding a mulching of well rotted manure, 4ins. deep, over the surface of the soil as far as the roots extend. Whether it is a sound policy to apply this manure in early winter, or in winter at all, is a debatable question, because it is doubtful whether roots, being dormant in winter, have the power to absorb and to assimilate such nutriment at that time, but rather that much of the essence of the manure is washed through the soil into the drains and wasted. Be this as it may, there is no question about the usefulness or value of such a dressing of manure in spring or early summer, not only in keeping the soil humid about the roots, but also useful in providing sustaining food for the large number of new surface-feeding roots formed at that time. Trees planted under unfavourable conditions or by indifferent planters, lacking knowledge in the art of planting, are like human beings in that they resent being roughly and unkindly treated. They cannot articulately tell us so, but they find a way equally as effective by disappointing our expectations in their growth and fertility.

Standard trees are more liable to injury from faulty planting than are trees of lower growth, because of their long stems being fully exposed to absorption of sap from their tissues by sunheat in the absence of a free circulation on account of feeble root action. The result of this is to be found in the poor expansion of the stems of the trees, the thinness and yellow grey colouring of the bark, and in the apologetic and miserable appearance of the trees.

If steps for the restoration of the health of such trees are taken in time (that means now, or as soon as the work can be seen to), there is hope for their recovery. Nature, if helped in the right way, can do wonders in this respect. Let us find the cause of their ill-health, if we can. It may be that the soil is water logged, or that the trees are planted too deep, or planted in heavy soil in wet weather, and as a consequence of heat and dry weather the soil is baked as hard as bricks and made impervious for the young roots to enter. Let the cause be what it may, it is certain that it is something the new roots formed in the spring have a repugnance to.

The first thing to do (unless one's actual knowledge of the case precludes this being necessary) is to remove carefully a portion of the surface soil in order to find out how deep the top roots are buried, and then, if the soil is at all dry, to give the roots a good soaking of manure water. If the soil should happen to be hard baked, it would crumble down after such application. As soon as the roots have recovered replace the natural soil taken off with a layer of loamy soil, passing this through an inch and half sieve, mixing with it an equal quantity of well rotted stable or farmyard manure, and adding a scattering of lime. Lay this compost over the roots, say 3ins. deep, treading the same down firmly. The roots must be sick and feeble if they do not grab at this tempting bait. Watch this dressing carefully, and if all goes well you will find, on examining the same a fortnight or so hence, that the compost will be well filled with young, active roots, gorging themselves to their hearts content on its essence. As soon as it is found that the top dressing is fairly full of roots, add another similar dressing, and later a mulch of short manure, say 4ins. deep. In dry weather give copious waterings. At the end of the season you will be agreeably surprised at the improvement in the tone and vigour of your trees.

Apply the same treatment the following spring and summer and as long afterwards as you think the trees require it. A healthy young apple tree, once well established in good soil, will remain in profit, if properly looked after, for from fifty to seventy years.

OWEN THOMAS, V.M.H.

Green Crops Through the Whole Winter

Too many people discover that their tables can be supplied in over-abundance at irregular intervals with lengthy intervening gaps. If right choice is made and correct methods are pursued, they can ensure an unbroken succession.

DURING the war it was urged that labour, space, plant food and money for cost of seeds would be saved by those who excluded Borecoles, Broccolis, Brussels Sprouts and Savoys from their gardens, limited Cabbages to one planting each for spring and summer, Cauliflowers to one late summer batch, and placed reliance on sowings made respectively in April and July or August of Spinach Beetroot. Failing strength of mind wholly to deprive myself of delicious Brussels Sprouts and Broccolis, I restricted their numbers, barred Borecoles and Savoys, and had abundance of Spinach substitute for a complete year from six rows of plants. As far as the provision of food was concerned the plan succeeded, but I do not anticipate with the least pleasure being forced to accept it as a necessity again. The varied flavours of the members of the Cabbage family find every palate appreciative, and the advantages in the maintenance of general good health through the winter and spring derivable from their free consumption are acknowledged by all.

There is, perhaps, nothing easier in the world of gardening than to produce a fine quarter of summer Cabbages or autumn Brussels Sprouts, but to maintain an unbroken succession of various kinds from September to June is a different proposition, and one which has strained the resources of gardens and men to the breaking point on many occasions. There have come alternate periods of luxuriance to the point of repletion and leanness to the point of starvation, and they will come again unless the utmost care is exercised in the selection of kinds and varieties, the times of sowing the seeds, and the dates and choices of sites for planting out. Let us divide the subject into these three sections and consider each in its turn.

The most valuable kinds are Brussels Sprouts, Cauliflowers, Broccolis, Borecoles or Kales and Savoys. Cabbages enter into the scheme from the extremes of September and spring, the latter incomparably the more valuable of the two yields and, in gardens which are of too small an area to permit of late Broccolis, the most welcome of the early season vegetables. The problem of varieties is different, yet still easy, since there is such a wide field of excellence whence selections may be made. The tastes of consumers and the demands of households vary so greatly that no two are likely to make identical choices, and it will tend rather to waste valuable space than to usefulness, therefore, to give lists herein. Readers of THE GARDEN buy only from sources of the highest repute, and they will find in the catalogues of their favourite firms their pet varieties, with the satisfaction of knowing that reliance can be placed as well on the recommendations as on the descriptions.

The season of seed sowing must necessarily be of considerable length, commencing in frames and greenhouses perhaps in January and certainly in February, and continuing thence to the end of May and sometimes to June. Brussels Sprouts and Cauliflowers will come in the front rank the former for the earlier autumn gatherings and th latter for summer crops, which scarcely creep within the scope of these notes. Brussels Sprouts always demand a very long period of growths hence the earliness of sowing. Cabbages, Cauliflowers and successional Brussels Sprouts will follow in March, with the bulk of the Borecoles, some Broccolis and the Savoys in April, finishing in May and early June with Broccolis and other kinds of which late supplies are desired.

It cannot be urged too strongly that seeding must be thin, that thinning must be early, and that removal to nursery beds must be done promptly when it is clear that the seed beds do not provide adequate space. The first essentials are perfect seed leaves to sustain the seedling until it can find food for itself, and the second such ample space as will ensure the full benefits accruing upon light and air.

Now we must consider soil and planting, to both of which the highest importance attaches

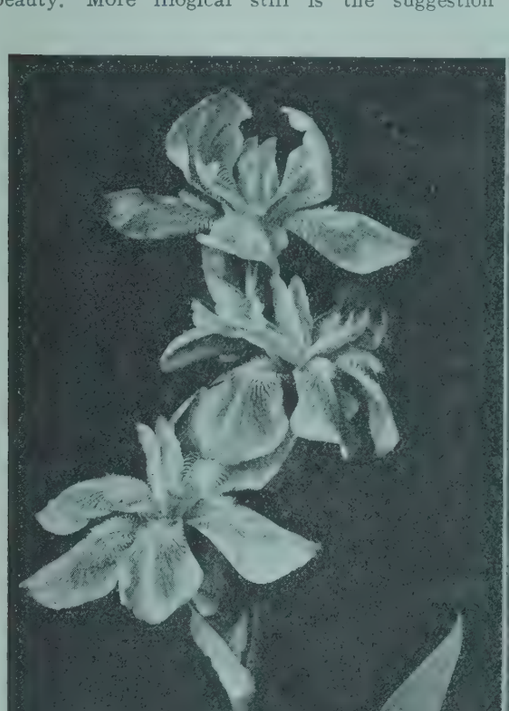
If one could safely speak in the broadest sense, one would unhesitatingly say that all these vegetables want is a deep soil in excellent heart to bring them to perfection. There must be, however, one outstanding reservation—Broccolis timed to come into use from January to June, not including the White or Purple Sprouting, which rank with the Borecoles or Kales. Omitting, then, the specified Broccolis, dig deeply, manure liberally, but withal wisely, and plant firmly in showery weather if possible. The planting period will extend from the end of March to the end of September, and it is a wise precautionary measure to draw all roots through a thick puddle of soot and lime. Distances in and between the rows cannot be usefully mentioned, as they must be governed by the habits of the varieties grown. The packing about the roots must be firm in all circumstances, and in dry weather a heavy soaking further to settle the soil will be beneficial. A handfork is better than a dibber for planting, unless the operator is one among the comparatively few who know the correct method of using the latter handy little tool.

Special attention has been drawn to the Broccolis, which are required to pass into and through the worst parts of the winter. The ideal sites for the are old Strawberry and autumn-sown Onion beds and the only treatment necessary or desirable hoeing to cut down the weeds. Planting shoul be done with a long iron dibber, and the soil mus be packed literally as hard as it can be made The combined firmness of the bed and restrictio of roots will go to favour steady, very hard progress, and it is rare indeed for plants whic have been treated thus to suffer even in the mos rigorous winter, and the labour of heeling them over with their heads to the north is obviated entirely.

W. H. LODGE.

IRIS CLEMATIS: THE TENDENCY OF HYBRIDISATION

THE exception taken to the above Iris in THE GARDEN of June 4 is at once interesting and illogical. Interesting because it opens up the question as to where the aims of the hybridist should cease; whether, for instance, a change of form in any particular flower is as permissible as a variation of colour. Illogical because it concludes that such change is not permissible, and argues from this conclusion, and also a purely personal objection to the form taken by this particular flower, that there is in it a lack of beauty. More illogical still is the suggestion that the hybridist is responsible for this particular variation of form. The point to which "exception" is taken appears to be that "the standards of the flower open out like the falls, or lower petals." Does the writer really think that this detracts one iota from the beauty of the flower? If so, he rules out of the scope of his admiration other Irises, both species and varieties, that possess the same characteristics. All the six petalled Iris Kæmpferi would be excluded. Neither Iris tectorum nor gracilipes would have a place in his garden. Surely he would not "take exception" to these, among the most admired of the whole genus.



THE DEFENDED IRIS CLEMATIS.
Standards drooping.

IRIS GRACILIPES.
Standards reflexed.

Returning to the effect of hybridising, the development of the peculiar characteristics o Clematis was the very natural result of a very natural process. There was no intention, o effort, on the part of the hybridist to "turn hal the flower inside out." The only artificial act was in conveying the pollen from one flower to another. Neither of the two parents showed the tendency developed in the offspring. Even the act of the hybridist was unnecessary. A chance seed from a bursting pod, in a garden where the science of hybridisation was unknown, might conceivably have produced the same results, and had Clematis been a natural hybrid, collected in some far distant corner of the world, should we still "take exception" to its shape. If Nature chooses to make the interior of the standards more beautiful than the exterior, and then, in her wonderful economy, rather than waste her effort makes the standards reflex to show that interior, for what shall we blame her? If there is any blame it is on Nature and not the hybridist, for she alone is responsible.

But there is a deeper and more serious suggestion in the paragraph referred to. The writer is willing to find no "fault with the hybridists," providing they preserve that indefinite, unprogressive and elusive attribute called "old world charm." If this is to be the foundation of judgment, it will eliminate from cultivation 99 per cent. of all the Irises, Sweet Peas, Dahlias, Roses, Carnations, Carrots, Potatoes, Cauliflowers and every other product of the modern garden. Chelsea Shows would be no more, and that bright little periodical THE GARDEN would either become a botanical catalogue of known species, or die from lack of material to fill its columns. Horticulture might survive for a time by collecting and distributing the weeds of the world, and the garden would become a very dull place, for if the "charm" is "old world" enough it would resolve the modern garden into a collection of species.

Please do not misunderstand me. There is something absorbingly interesting in a collection of species, whether of Irises, Roses or anything else, but who would care to go back to a garden of types? Some months ago I remember the "Notes of the Week" in THE GARDEN opened with a quotation from the pen of Mr. Eden Phillpotts: "Man has availed himself of the great laws of evolution in mightier matters than the Iris: but in no theatre of his unsleeping efforts has he created purer beauty, or wakened for the flower lovers, truer joy than among the bearded Irises of June."

The bearded Irises of to-day are just as much departures from the original species, in one way or another, as Clematis is from its first parents.

Is not the whole scientific effort of the day directed towards developing the best and

IRIS PALLIDA DALMATICA.
An old type with erect standards.

eradicating the worst characteristics in every genus? It is not a question of developing "size of the flowers at the expense of grace and form." Man cannot of himself breed a new form. Nature may do so by taking a hand in his efforts, but even she is bound by her own laws. She only reproduces unequally the good or bad attributes from remote or near ancestors.

No one knows better than the hybridist how accidental some of his best results appear to him to be, and this despite all the laws of Mendel. Twelve seeds from a single pod may produce as many variations, and of them one may be half the size and one twice the size of the parent, and one only, as in the case of Clematis, may choose to assert itself as a variation of form, and the hybridist is impotent. He cannot even be assured that the form will reproduce itself from seed. The probabilities are that it will if Nature has endowed the new characteristics with strength and individuality sufficient thereto.

If we take exception to a form adopted by one Iris because it reproduces the form of another, or even if we object to the form of one flower because it resembles that of another species, where shall we stop? Orchids resemble butterflies and bees. Shall we "take exception" to the Orchids, or the butterflies and bees?

Some of the characteristics that have been bred into the newer Irises are just as pronounced as this reflexing of the standards horizontally in Clematis. Standards have been strengthened and elongated. Falls have been broadened and rendered horizontal or drooping, as the case may be. Stems branch low down where once they bore their flowers rigidly, alternately on each side of an erect stem. Colours have been mingled, and new colour shades introduced that have added infinitely to the charm of the Iris as a garden flower. So much is this the case that we are all in the position of the little girl who, when asked to describe the colour in an Iris, said: "I really cannot tell you what colour it is, but it's every kind of fairy colour." All this is tolerated, together with the wave, in Spencer Sweet Peas, and other modifications; and yet because Nature chooses to adopt a form a little different from the standard set up by man as the ideal, "we take exception."

It may be argued that Nature sometimes produces monstrosities, which is true; but it is not in violation, but in pursuance of her own laws. The stronger characteristics of one parent may be reproduced in unequal proportions to the best of the other. The scientist may make mistakes in endeavouring to assist Nature by trying to impose on one variety the desirable characteristics of another, which may be due to his ignorance of what has gone before. Nature never forgets what has gone before. Mere *size* has nothing to do with beauty, in flower or animal. It is proportion that counts. The hybridist cannot "develop the size of the flowers at the expense of grace and form" unless Nature retaliates for some previous violation of her laws by producing inequality, and thus lack of proportion. The little Iris gracilipes magnified to the size of the largest Iris Kæmpferi would be just as beautiful if all its characteristics were equally magnified, nor would it be less beautiful than the finest Kæmpferi. We may admire diminutiveness, but smallness does not in itself constitute beauty. It is the little thing that reproduces perfectly the characteristics of the larger that attracts us. Therefore mere increase in size does not necessarily mean loss of grace and form. Little things are valuable when they are seen quite near. The largest flowers become smaller to the eye when seen in the distance. Who would reduce Iris Lord of June to the size it appears to be 20yds. away? Would they not rather have gracilipes magnified so that its beauty is not lost to sight at that distance?

There is a very apt quotation from a well known author in his attempt to define beauty which is appropriate here: "Beauty is the moment of transition, as if the form were just ready to flow into other forms." GEORGE DILLISTONE.

IRIS KÆMPFERI.
Note the six-petalled variety, all faces horizontal.

IRIS CRUSADER AND I. KASHMIR WHITE.
Two normal orms, standards erect.

Myrica cerifera and Its Uses

THOSE who care for the sweetest of sweet scents should be sure to have one at least of these modest looking bushes, preferably in some place where a leaf or a little twig can be gathered in passing and crushed in the hand. The scent is of the quality that our forefathers called "cordial"; much like that of the dying wild Strawberry leaf. It is very "modest looking," for it may easily be passed without observation; the bloom is quite without beauty, and the foliage is of a quiet green that would never attract attention. The reddish bloom in May is inconspicuous, and the fruit that follows looks like a collection of small buds thickly clustered on the stem and more or less powdered with a resinous secretion. This when suitably treated forms a kind of wax.

There has been recently published a very interesting book on old pewter ware by an American author, N. Hudson Moore. Writing about some ornate examples of pewter candlesticks he says: "Such candlesticks as these held the choicest wax and dipped candles which the housewife could make. If possible she used Bayberry wax, which was highly esteemed from New Orleans to Canada. In 1705 Robert Beverley described it as follows: 'A pale brittle wax of a curious green colour, which by refining becomes almost transparent. Of this they make candles which are never greasy to the touch, never melt with lying in the hottest weather; neither does the snuff of these ever offend the smell like that of a tallow candle, but instead of being disagreeable, if an accident puts a candle out, it yields a pleasant fragrancy to all that are in the room; insomuch that nice people often put them out on purpose to have the incense of the expiring snuff.' Long Island was one place where the Bayberry bushes grew in profusion, and they grow there still. There are one or two elderly people who make such candles as these yet, and some are for sale—and they are fitting objects to burn in one of these old candlesticks of a summer evening."

MULLEINS PULLED DOWN

A USEFUL lesson was taught me accidentally last year by a strong plant of one of the best of the Mulleins (Verbascum phlomoides) that was blown over by wind. It was not broken, only laid flat, and as it was in an outlying place where it did not matter, it was left lying down. When it came to flowering time I was surprised to see, besides the main spike which stood upright at the end, a whole quantity of secondary spikes rising all along the stem, all in strong bloom. There is nothing remarkable in there being these secondary spikes, for a self-sown plant always has them, though in those that are transplanted there is usually one spike alone. But in the case of this laid-down plant the axillary spikes were much more numerous and more full of bloom; also, instead of being restricted to the upper part of the spike, they ran much further down. What was still more noticeable was that the whole thing remained in flower for quite a month longer than is usual. It is a puzzle to account for this persistence; I can only suppose that the stem, lying on the ground, received some comforting and sustaining moisture.

IN EXPOSED POSITIONS MULLEINS ARE APT TO BE BLOWN DOWN, BUT THIS IS NOT ALWAYS A DISASTER.

The long mass of spikes rising from a foot to 15ins. suggested useful ways of employing the plant in the flower border. Some strong ones were transplanted in the autumn and are being trained down in anticipation of their covering something of earlier bloom and in the hope that, although they were transplanted, the pulling down will have the effect of inducing the side growths, which otherwise might not have been developed, to appear and bloom well. The earlier hybrid Mullein with the deep yellow flowers and velvet-brown centres is equally amenable to this treatment and forms a gorgeous mass in the border for early June. G. J.

A DISSERTATION ON SEED SOWING

Experiments Create Interest—Interest Creates Garden Beauty

HE who sows seed enters upon the adventure of a voyage. If the subject be annuals, the fancied voyage may be likened to a trip across the Atlantic, a humdrum affair that has regularity and a great degree of certainty between the embarkation, which is the seed sowing, and the arrival at the distant port, which is the flowering season. With but a short span between the beginning and the end of these voyages there is not much to come in the way of success; though, of course, some reckless fellows go all out to meet failure by trying to bridge the herring pond in a cockle shell.

Then there is the intermediate voyage which represents the culture of biennials, also an undertaking of the time table order but longer; shall we say, a journey to India or Buenos Ayres requiring more patience to attain the consummation, with still, however, few perils to negotiate. More interesting, because of greater difficulty are the longer trips, antipodean perhaps in destination, where the seeds of perennials are committed to the ocean of uncertainty, and where the enduring mariner must ply his skill and look ahead, and at length, if his skill has sufficed the craft is moored at its far off port and the long quest brought to its desired completion. But there are phases of plant rearing that are the real thing in voyages, real voyages of discovery into uncharted seas, where storm and sunken rock and guileful whirlpool lie in wait to wreck the hopes of many months' endeavour. In this category come the making of bulbous plants, such as Lilies, Tulips, Narcissi and certain Irises or the corms as of Ixias, of the Crocus species, or of Gladioli; or the tuberous-rooted things like Montbretias, or the rhizomes of the multi-sectioned Irises. To grow these from seed to flower needs the enthusiast in horticulture if an amateur, or else the patient and experienced skill of the nurseryman.

But why, one might say, undertake these hazardous enterprises when the seedsman, who is the real mariner of our simile, is content to do the voyaging and bring the wares to our door? On the other hand, why not? As Britons we are all adventurers at heart, and if we cannot in actuality range the oceans in search of incident, we can at least take comfort from that Stevensonian epigram that the finest adventures are not those which we go forth to seek, but those that come to us at our own fireside. And every amateur gardener worth the name is always casting round for new things to have and to cherish in his own demesne, so these seaways of research can and should be explored by all who care on the chance of bringing forth new creations from the unknown. Think of the repletion of our pride when we do by our own efforts create this new thing that will in time grace the gardens of our friends as well as our own!

Now, the fittest likeness to the ship on which we make our travels is the seed we sow, for it is that which carries us on from the embarkation to the point of arrival, and as seeds themselves, in a botanical sense, are contained in vessels, it makes our metaphor whimsically apt. And this brings me on to what I had in mind when I started writing, viz., the shortage of tonnage for these long and venturesome voyages, or, to cast simile aside and come back to purely garden parlance, there is too little encouragement given by seedsmen to those who would like to grow the best class of flowers from pedigree seed. Many people would find the pleasures of this phase of gardening highly intensified if they could purchase seed with such a pedigree as would guarantee first-class results. I cannot call to mind any firm in the country who list seed the parentage of which is declared on both sides

Messrs. Blackmore and Langdon deserve commendation for taking some step in this direction, for, if I remember aright, they offer Delphinium seed from named varieties, which guarantees one parent at least, and thereby they give Delphinium growers some indication anyway of what they may expect. Nor perhaps could they do more, for I am inclined to think that Delphiniums do not accept the good offices of the hybridiser, though some of the species, particularly those of annual duration, are susceptible to the pollen of the garden hybrids.

Many amateurs grow Border Carnations from seed, but no dealer has ever, to my knowledge, offered the public anything but mixed seed, however good it may be declared to be. Even if hand-crossed seed is too precious to sell, something might be done to arouse fresh interest in Border Carnations if seed were sold as coming from certain shades of self colours, from white ground fancies, or buff ground fancies, or from picotees. Iris, Tulip and Narcissus seed is seldom or never offered at all, though I remember Messrs. Wallace of Colchester listed seed from the Tulip species a few years ago, also seeds of Liliums Regale and Szovitzianum. Both of these latter I tried, and I have some of the last named coming on, but as regards Regale one of the whirlpools overtook me in my voyage, for the gardener, with the splendid genius of his race, threw out the soil from a pan containing half a dozen two year old bulbs during their resting season, and I fear that little ship sank to the bottom, for I never saw a trace of them again, though I carefully searched the bed on which he said he threw the soil. Another plant very dear to me is the Gladiolus, than which few flowers are more liberal with seed. It only the ordinary gardener knew what intense pleasure (I had almost written excitement) can be harvested from crossing Gladioli and raising new varieties thereby, it would become one of the fashionable foibles of the garden lover. I reckon most people think this is a work of long-suffering patience, but it is not. Two years from seed will bloom most of the little cormlets, and I have seen the embryo flower forming at the base of the young growth seven months after sowing, though the oncoming winter foiled it in its purpose. The Primulinus hybrids are usually extremely generous with seed, and it should not at all be beyond the power of growers to offer seed from guaranteed source. Messrs. Kelway's variety Ghost seeds all the way up the spike, and I had literally hundreds of seeds from one corm last autumn. Think of the interest arising from a batch of seedlings just coming into bloom, the result of crossing that brilliant scarlet Primulinus Adonis with, say, the deeper scarlet Firefly, or with Enon, a creamy yellow and orange! And one could ring the changes of parenthood almost to infinitude—Primulinus with Primulinus hybrid, Primulinus hybrid with Large-flowered, Large-flowered with Primulinus, species with species and so on. And yet one hardly ever sees a Gladiolus seed for sale of any description! The possibilities are legion if good seed could only get into the hands of intelligent amateur growers. They would readily pay considerably higher prices, they would not and could not poach on the preserves of the seedsman; indeed, they would do much towards stimulating both interest and demand.

J. L. GIBSON.

THE EVENING GARDEN

Further Suggestions for the Tired Man

THE subject of the evening garden is well worth careful consideration, with its power of healing and wholesome refreshment to the tired worker; such sane, cheering and soothing comfort as cannot be better described than in the poetical words of our Tudor ancestors, who held that the main purpose of the garden was for "sweet solace." There are some wonderful evenings towards the end of May when the whole earth seems to pour forth incense as the sun goes down. A great part of it, in a garden well known to the writer, is from the young Birch foliage, for, just across the lawn groups of Birches adjoin the garden. It is a tree that provides a powerful fragrance in more ways than one, for we all know the good smell of Russian leather which comes from treatment with oil of Birch bark. Then the tree has the silvery stems that show ghostly graceful in the darker hours, and the small leaves, lighty stirred by a slight night breeze, have a refreshing sound much like the pattering of soft summer rain.

Flowers of sweet smell there must be in the evening garden; among the best will be the biennial Rockets, white and purple, from 3ft. to 4ft. high; they should be sown now for next year. Then the tall Evening Primrose (Œnothera Lamarckiana), only fully open at night and with a slight, pleasant scent; and the lowly night-scented Stock (Matthiola bicornis); a plant hardly to be noticed in daytime, for the flowers are closed and the foliage is inconspicuous, but as soon as the day is done the little flowers seem to come awake and lavishly pour forth their wonderful fragrance. In only a lesser degree the ordinary garden Stocks are scented at night; they should be largely grown where the soil is calcareous, for they are true lime-lovers. The great Yuccas are plants for the evening garden, for though their appearance has a certain magnificence in the daytime, yet the flowers are only fully expanded at night, and it is only at night that they give off their finest perfume.

These are some of the best of the night scents; they seem to be of a different quality to the day-light sweetnesses; the sun-baked Thyme, when crushed underfoot; the basking Mignonette, the Roses, such as the type multiflora, that give off their scent far and wide; though the evening garden may well have bushes of Sweet Briar and should not be without Candleberry Gale (Myrica cerifera) somewhere within hand-reach, for the plucking and crushing of a leaf or two as a type of that wonderful and mysterious perfume given off by the dying Strawberry leaf.

GERTRUDE JEKYLL.

THE entirely evening garden for the tired man is I fear, an ideal to be attained by the very few and not the many, but is none the less desirable. Generally the garden already exists, and for those whose opportunities for garden enjoyment occur chiefly after the day's work is done the desired effect must be chiefly obtained by arrangement and planting.

For the warm summer evenings water is, to the majority, the coolest and most refreshing feature of any garden, but the little pond or Lily basin whatever form it may take, should not be too near the house, or it will depress the spirits instead of refreshing them during the winter. For this evening water garden the Nymphæas have no place, they go to sleep far too early to give any pleasure. The golden-cupped Nuphar, which carries its blooms well above the surface, is an exception. But it will be the bog plants that will give the chiefest pleasure. The Alismas, Sagittarias, the deliciously fragrant Aponogeton, which is always in flower and even after having been frozen stiff on the surface for a week will, when thawed, yield its perfume. Such as these are for the evening.

The house border should be of generous width and be filled with shrubs and flowers, many of sombre hues, that live either for opening in the evening or to distil their fragrance. Rosemary and Lavender and Southernwood; Tobacco plants, Night-scented Stocks and Mignonette should be there; while up the walls there will be such Roses as Gloire de Dijon, Hugh Dickson and Souvenir de la Malmaison, with Jasmines, Honeysuckles and Wistaria for the upper windows.

In front of the house there must be a lawn, as large as may be; for nothing is so restful as spacious greensward. In our evening garden it should not be cut up with flower beds or studded with shaped trees, and throughout the summer the lawn-mower must be set high in order to have a lawn of pile carpet-like softness; later in the year, when the evening dews fall early, it may be lowered and the grass more closely shaven.

Colour is most important when the garden is chiefly visited towards the day's close, and it is the "soft" colours—the grey blues, mid-pinks, pale pinks, pale yellows and mauves, which are so restful—that should predominate in the garden borders. While for the twilight and moonlight hours there must be plenty of white flowers. The garden bathed in soft moonlight, when all the white flowers are touched with rose, is a precious possession, and for this there should be large white Clematises, the Macartney Rose, Chrysanthemum maximum, Nicotiana affinis and such.

To most people the "fierce" colours, the scarlets and crimsons, deep pinks and cerises, are too aggressive and disturbing for great use in a garden where we go for rest and contentment. But for those, and no doubt they are many, whose souls thirst for colour, bright foliaged shrubs have much to recommend them. They provide colour of a much more restful nature than that of flowers. A shrubbery bed or border of the golden-leaved Catalpa, the golden Cornish Elm, the rich purple Prunus Pissardii and the variegated Negundo, of the taller sorts, and Purple Hazel, Golden Privet, Cornus Spæthii, Lavender, Santolina and such dwarf kinds give ample rich colouring without undue distraction.

In the tree world it is the soft foliaged trees and the grey greens that are most restful, while of flowering trees it is those which bear white or pale coloured flowers—the False Acacia, the Bird Cherry, Magnolias, Cherries, Pyrus spectabilis, the Lime and the like that are appropriate.

Conifers generally are too dense, sombre and formal to find a place in the evening garden. Even the silvery sorts, except very late in the evening, are too intense, but exception can be made with the Junipers, particularly the graceful drooping grey green branches of Juniperus recurva.

It is this grey green foliage that rests and soothes the mind, for did not the Man of Sorrows seek seclusion amid the grey green Olives when torn and wearied in mind?

A Bamboo dell would appeal to many, who would find rest and entertainment in the graceful feathery culms of such as Arundinaria nitida and in the gentle rustlings of the leaves

A. CECIL BARTLETT.

HARDY GERANIUMS FOR THE WILD GARDEN, WOODLAND AND BORDE

Many people think that by Hardy Geraniums the Bedding-out Pelargoniums are referred to. Pelargoniums require the protection of glass in winter and are very often wrongly termed Geraniums.

MAHOMET was so well pleased with some sheets made from the fibres of Mallows that he ennobled the plants that had provided them by turning them into Geraniums. So runs the legend, and it speaks well for the appreciation of the Moslem for the beauty of the Crane's-bills and perhaps excuses the latter for their lack of utility. It was scarcely fair to other folk though, who did not possess a sufficiency of Mallow-fibre sheeting. As spring turns into summer this garden teems with Geraniums, and I enjoy their beauty as much as Mahomet did his sheets and find it hard to steel my heart sufficiently to weed out the many seedlings that appear among less vigorous plants. Each unflowered seedling might be a purer white, a deeper rose shade or bear a more fully doubled flower than any yet seen, so they always go into the weed basket with a feeling of regret.

Knuth, in the monograph of the "Geraniaceæ in Das Pflanzenreichs," divides the genus Geranium into thirty sections with 259 species, besides, of course, the usual crowd of sub-species and hybrids to be found in a large genus. Their distribution is world wide, in temperate regions and in high mountains of the Tropics. Most of them, therefore, are hardy enough for British gardens, and taken as a whole they are a wonderfully good-tempered, easily grown family, giving us a wide choice of colour and habit. Some, like G. argenteum, are among the choicest of tufted plants for the rock garden; others, like G. phæum and G. pratense, will grow in any corner that would be unfit for anything but Ivy or Periwinkle, and some of them look their best naturalised in meadow grass, as one sees Geranium sylvaticum in the Lake District and the alpine pastures of Europe.

I have been busy this May morning transplanting some of the self-sown yearlings from border to pasture, and it has been delightful work to group the rich purples and slatey blues of forms of G. phæum among the glowing Buttercups and rosy Ragged Robins. Both look the brighter for the arrival of their new dusky neighbours and the Crane's-bill itself takes on a fresh beauty as it looks up among the cool, wet grass. It has such a pleasant root habit that one can cut up a little tuft with the trowel from the dry places under larger herbaceous plants without cutting any roots, and the meadow is so damp in the low-lying stretch that I am trying to turn it into an alpine meadow, that, on a showery day such as this, there should be no wilting of even the fully open flowers. It is not often one can arrange a colour effect with plants in full flower—and neither from pots nor nursery ground, but just the result of necessary weeding.

Let me plead the merits, so often overlooked, of G. phæum, the dusky Crane's-bill and the Mourning Widow, as it is called according to choice. The accompanying drawing shows the darkest form I possess, quite an old-fashioned widow, in deepest weeds, for the petals are of such a deep claret colour as to look black in the shade. Looked at closely in one's hand or arranged in a vase with pink-flowered Endressi forms one sees fresh beauties in the poise of the flower, the slightly recurved petals and graceful curves of the stamens which vary so much with their seniority of ripening.

It is interesting to note that a Geranium differs from an Erodium in having all ten of its stamens crowned with anthers, instead of only on eve other one. The outer ring of five stamens Erodium are always barren, that is, bear no anthe atop. You can tell the age of a Geranium flow by noting whether the anthers are held out touch the visiting bee, or having shed their poll have been tucked away by the curving of the filaments, or, as in some species, have dropped o the still erect filaments. In either case the end by effacing themselves to allow the sta shaped stigma to occupy the principal place i the centre of the flower. Thus a Geraniu flower, soon after opening, is in th pollen-bearing or male stage—five of it stamens opening at a time and offerin pollen to its insect visitors. Later it i devoid of pollen, and with its open stigm is in the female stage, ready to receiv pollen brought from another flower an thus the chance of cross-pollination i rendered almost certain.

In very few species of Geraniu is this rule deviated from. Some o the small-flowered little weeds, such as G. dissectum and G. pusillum, being so dowdy as to attract but few insects, open their stigmas first and rely upon self-fertilisation for the most part.

Geranium phæum varies a great deal, and though, perhaps, the darker the flowers the more effective it is as a contrast to other species, yet a grouping of the various reddish-purple and slatey grey forms is very good to see. On the Brenner Pass the meadows are full of a soft lavender-coloured form. I thought it rather washy as seen there, but my love for various forms induced me to bring it home and I have learnt to appreciate the pallor of this variety lividum, as it is none too prettily named.

G. reflexum is a near relative of phæum and less attractive from the rather crude purple-red of its flowers. Their pendent habit and sharply reflexed petals give the flowers a pleasant, wide-awake, Cyclamen-like air that is pleasing, and there are some seedlings flowering now that appear to be hybrids, and maybe a large-flowered reflexed form with pleasant colouring will appear if the weeding is not too vigorous in that corner of the garden.

G. platypetalum of Franchet is a great contrast with G. platypetalum of Fischer and Meyer. The latter I prefer to regard as a fine deep purple form of G. ibericum, but the former is the blackest of all Crane's-bills. Too small to be showy, yet it is very beautiful looked at closely, for there is a ring of brilliant crimson at the base of the petals that contrasts so well with their upper portion of funereal black. If only the flowers could be enlarged it would vie with some of the richest coloured Cypripediums in form and hue.

G. phæum is wonderfully effective grouped under shrubs, and so nearly evergreen that it pays rent almost all the year round, and very handsomely for even a poor lodging. E. A. BOWLES.

A DARK FORM OF THE MOURNING IRIS (GERANIUM PHÆUM).

PLANTS in FLOWER at COLESBORNE

AS the number of persons seems to be growing who have a taste for flowers which, if not so showy, are much more interesting and quite as beautiful as the florist flowers which fill so large a space in many gardens, I mention a few which are now in flower here, all of which, with three or four exceptions, marked *, are hardy in this unfavourable locality and most of which are easy to grow. I do not mention shrubs or anything which has a bad straggling habit or which is too "miffy" to be suitable for any but very skilled cultivators.

1. *Anemone demissa.*—A Himalayan species with white flowers which is equal in beauty to, and a much better doer than, A. rupicola.

2. *Arisæma concinnum.*—A tall, graceful Himalayan aroid with elegant leaves and curious flowers. Seems the hardiest of its tribe and increases fast in a deep, shady border.

3. *A. speciosum.*—From the same country; is much more beautiful, but not so hardy.

4. *Allium chysanthum.*—From Tibet. One of Mr. Farrer's very best introductions, with globular golden flowers, dwarf and a good doer.

5. *Aquilegia glandulosa.*—I used to think this impossible to grow or to keep true in England, but, as Mr. Elliott showed at the late Chelsea Show, it is one of the best of its beautiful genus.

6. *Abutilon megaponticum.*—A pretty Brazilian climbing plant which I owe to Mr. Gerald Loder's kindness. Though considered tender, it has proved hardy here, as it is in Sussex, and is second only to A. vitifolium, which is saying a good deal.

7. *Calceolaria polyrhiza.*—This neat and pretty little Andean plant spreads abundantly without injury to its neighbours, and has an iron constitution which it has imparted to its even more beautiful hybrid, C. John Innes, perhaps the best of Professor Bateson's hybrid productions.

8. *Centaurea pulcherimma.*—Perhaps the choicest of a not very ornamental genus.

9. *Cotyledon libanoticum.*—A tiny, but very pretty little species for a dry, sunny place on the rock garden. It has stood out two winters here.

10. *Cypripedium macranthum.* 11. *C. Calceolus.* 12. *C. spectabile.*—No garden is complete without at least one plant of Lady's Slipper, and of the very many species which I have struggled, with more or less success, to collect and grow, these three seem the most amenable and beautiful.

13. *Daphne caucasica.*—I am not sure of the origin or correct name of this compact white flowered small bush, whose delicate fragrance attracts every passer-by. It seems a free grower here.

14. *Erodium olympicum.*—To my mind the best of the dwarf rock plants of this genus.

15. *Haberlea virginalis.*—Though too rare at present to be risked lightly on a rock garden, this white form seems to do as well under similar conditions as H. rhodopenses.

16. * *Hemerocallis nana.*—A Chinese species new to me; has just come out a very dwarf plant only 6ins. high with large yellow flowers like those of H. flava. It looks like a good novelty, but is very fugacious.

17. * *Homeria collina.*—A South African bulb which has no real claim to be called "hardy," but which seeds itself so freely in a cold frame and flowers so profusely that it is well worth the protection of a light in winter.

18. * *Heeria elegans.*—There are few prettier and more floriferous plants than this as a greenhouse basket plant, and it is so easy to grow and propagate that it can be used outside in summer in the same way as Verbena chamædrifolia.

Of Irises I will not say much as their name is legion; but among them are now in bloom two which are my especial favourites.

19. *Iris Clarkei.*—A beautiful species which in Sikkim grows in a marsh at 10,000ft., but thrives and ripens seed on the hottest and driest part of my rock garden.

20. *I. chrysographis,* which I think the best of the Irises introduced by Wilson and Forrest when you have a good form of it.

21. *Meconopsis.*—Of this beautiful genus the best to-day to my eye is the old M. nepalensis (*Botanical Magazine,* 5585) on account of its lovely winter foliage and tall graceful habit. Its one defect is that it is not perennial, but seed is always ripened here. Many other people, however, prefer the blue of a species which I raised from Forrest's seed and which I believe is

22. *M. eximia.*—Some of the plants bear flowers equal in colour to Bailey's M. simplicifolia, but many more have a dull or leaden tinge, and the foliage and habit are by no means equal in beauty to M. Wallichii or M. nepalensis.

23. *Nomocharis pardanthina.*—I know too little about this plant and its congeners as yet, to be sure that they will become, as I believe, the very choicest and most popular plants of their type; but, as I have seen it at Edinburgh, and here for the last three years, I can say that it is the most beautiful Liliaceous plant now in flower and apparently not difficult to grow.

24. *Oxalis adenophylla.*—Though a child of my own, I look on this as the best of the genus and one of the very choicest plants of its class.

25. *Pæonia Woodwardi.*—I have now come to the conclusion, after three years' trial, that this is a large flowered, dwarf form of P. Veitchii, and, like many other Pæonies, will probably become hybridised and merged in a new race. Anyhow, it is a good and pretty plant.

26. *P. Delavayi Variety.*—There are more than two different plants now in flower under this name. The tall, large flowered, claret coloured Moutan has become coarse, and is not, in my opinion, a desirable plant for ordinary gardens. The other has very finely cut foliage, some of the plants have white flowers, and at present its name is doubtful.

27. *Parnassia.*—Though rarely seen in gardens, several species of this genus are such neat and pretty little plants that, as they seem to be not difficult to grow, they should be tried. The only one yet in flower is P. mysorensis, an Indian species, which may not be hardy. The best doer of all is the alpine form of palustris, which, as Mr. Bowles has shown, does not require bog treatment and grows well in a rock garden.

28. *Podophyllum Emodi major* and

29. *P. peltatum* are so quaint and curious in leaf, flower and fruit that they cannot be dispensed with.

30. *P. sinensis.*—A smaller Chinese species with crimson flowers is also pretty, though very short-lived.

31. *Primula sikkimensis,* for its very delicate scent, and

32. *P. pulverulenta,* for its flowers, are, in my garden, easily the two best species now out. Most of the new Chinese species will not survive long here.

33. *Rheum Emodi.*—Whether this is the plant figured in the *Botanical Magazine* 4877 as R. acuminatum or the one figured in the *Botanical Magazine* 3508 as R. Emodi I am not quite sure, but it is one of the most striking of the genus on account of the rich colour of its young leaves and flower-stem, and with R. Alexandræ I should select it as one of the best of its genus.

34. *Roscœa Humeana.*—After growing this plant for three seasons inside and out, as well as all the other species of the genus in cultivation, I have come to the conclusion that with R. cantleoides it is the best. Both of them seed freely and seem quite hardy. I have now in flower what appears to be a hybrid between them which has the dwarf habit and large flowers of Humeana with the colour of cantleoides.

35. * *Saxifraga drapensoides.*—A very tiny, but beautiful little plant which seems to have a better constitution than many high alpines.

36. *Streptopus amplexifolius.*—A graceful plant, like a branching Solomon's Seal, with brilliant red berries.

37. * *Verbena chamædrifolia.*—One of the best plants in cultivation to cover a dry, sunny place in the rock garden, but must be propagated annually to preserve it through an ordinary winter.

H. J. ELWES.

CORRESPONDENCE

THE ONCOCYCLUS IRISES.

IT would be interesting and perhaps useful to many if some of those who are endeavouring to cultivate the wonderfully fascinating Oncocyclus Irises would give us short details of their successes or failures and the conditions under which they were obtained. It is now many years since the writer first essayed these weird-looking (in many cases) yet fascinating Irises. At that time the late Rev. H. Ewbank and a few others were engaged in attempting them, and the writer had a good deal of correspondence with Mr. Ewbank and various other growers regarding them. The experience of those days was not very satisfying, although a fleeting success with some was secured by the writer by planting them in shallow soil, with some lime mixed with it, on a nearly flat outhouse roof in full sun, and by covering the roof bed with a light during the autumn and early winter months so as to give the plants a complete rest. Some, but not many, flowers rewarded one for a year or two, but a prolonged absence from home owing to the death of a near relative led to the plants being neglected by the one in charge, and the experiment was not repeated as other and more amenable subjects offered Yet it is not possible, after having flowered such wonderful Irises as iberica, Gatesii and the like, to forget them or fail to have a longing desire to try them again, even though Mr Dykes does not give one much encouragement in his works on the Iris.—S. ARNOTT.

A PLANT FOR THE FRONT OF THE HERBACEOUS BORDER.

RARELY do we come across good plants of the pretty little Isopyrum thalictroides, although it has an excellent reputation for hardiness and ease of cultivation. It has been recommended for the front of the herbaceous border and also for cool corners of the rock garden. In either it is a most exquisite plant only a few inches high. It is possessed of charming foliage, like that of the Maidenhair Fern; and the flowers resemble those of some of the Thalictrums of a most refined character and of a good white. No more graceful little plant exists for the rock garden, and one regrets to have to insert a saving clause in one's commendations. Yet it is necessary, if the comfort of the grower and the welfare of the plant are considered. It is that I. thalictroides is a pet morsel for the slug, and plant after plant has

been lost through its voracious appetite for such a charming plant. Traps and careful searching or the enemy are helpful, but the day may come when this little beauty is found cropped to the ground and irremediably injured.—DUMFRIES.

THE MANNA ASH.

A FEW days ago I came across several very fine specimens of the flowering, or Manna Ash in the Aberystwith district. Two of the trees would be at least 40ft. high; they were most symmetrical in shape and the handsomely-foliaged boughs were covered from top to bottom with the creamy-white flowers. Such a mass of inflorescence were the trees carrying that they seemed at a little distance to have been lathered with foam. For a long distance the air was laden with the delightful fragrance and myriads of bees and other insects had evidently discovered "manna" and found it sweet. As this appears to be a very desirable flowering tree and one seldom seen, it would be interesting to hear the experience of any reader who has grown it, especially as to its hardiness, the age when flowering commences and the name of the best variety, as I believe there are several.—J., *N. Wales.*

OBSERVATIONS ON NEW INTRODUCTIONS FROM CHINA.

AS an aftermath of the flower show one hears expressions of disappointment that many of the new Chinese plants have not lived up to the glamour with which the descriptions of their collectors have surrounded them. It is partially justified, this disappointment, but it is not entirely the fault of their discoverers. Naturally the personal satisfaction of finding a new plant growing in a place of its own selection is intense and may colour the description a little with a glory that is incompatible with its showing in a place chosen for it by man. Perhaps people expect a little too much from the first generation of a newly introduced plant. There are many things which may alter its nature and flowering capacity; a new climate, new soil, often a chemical action in the seed during its long journey to England, unaccustomed movement during the seedling stage, and often the impossibility of collecting selected seed owing to weather conditions. With all those forces working against the plant, there seems to be nothing left for the grower to do but to sit tight and hope for the best. There are two points, however, of which a gardener should take note. The first is not to make special pets of the first germinations, for early germinations often come from seeds which have been picked unripe. They grow to stalk and produce poor flowers. The last seeds in a pan to germinate usually produce the best results. The second point is not to be disappointed with the flowering capacity of the first generation. Select the best seed from the plants and sow again. The second generation will be native raised and have had time to get acclimatised. If that were all, time would bring the solution, but there are strange anomalies. In one valley on the frontier range between Burma and China, the late Mr. Farrer and I found growing in a space of a hundred square yards, Primula Helodoxa, Campanula colorata, and a climber called Streptolirion volubile, a magnificent annual like a hummock of fresh fallen snow, so thick were its little glistening white stars. P. Helodoxa is now known in the British Isles as a hardy, strong growing Primula, making just as fine a show in the garden as it ever does in its native haunts. Campanula colorata also grows well in this country, and you would imagine that the climber would do the same, but it does not. For one thing it is not hardy, while in a greenhouse it climbs so hard that it is unable to produce more than a few scattered stars. I grew it with great care. It climbed over everything in sight, each shoot a good 6 ins. a day. I altered the temperature so as to give it what I thought were exactly similar conditions to those to which it was accustomed. It covered 26ft. of wall and produced ten flowers. Bees would not look at it, and fertilisation was hopeless. It died and there is no more of it. I know it is a wonderful sight, because I saw it in Burma, and yet all I got was ridicule for wasting so much space on a weed. Now take the other side of the picture. People say that the collectors should discriminate in what they send home. I give two quotations from Mr. Farrer's "On the Eaves of the World." He speaks about Primula Woodwardii: "For here its long fat root-stalk . . . can partake sufficiently of summer's moisture and then go to rest in the frozen ground throughout the alpine winter. And without such conditions at home I doubt if P. Woodwardii will ever greatly or permanently condescend . . ." In a footnote, written after his return home, he says, "The doubt is quite unjustified and the warning wholly without foundation. P. Woodwardii, of all my Primulas, proves perhaps the most hearty and easy and permanent in cultivation, so far, and develops a white-eyed beauty and elegance of which its more corpulent splendour in the wilds had given no promise." And this from Mr. Farrer, who combined a tremendous knowledge of the garden with his practical experience in the field. It only proves the impossibility of any infallible ruling as to what will grow in its full splendour and what will not. The only thing to do with new importations from China is to give them a fair trial, patiently and without flustering them by calling them and their discoverers names.—EUAN COX.

PLANTS NOT COMMONLY RAISED FROM SEED.

ONE or two plants in flower here now are of interest as having been raised from seed. A batch of Richardia Elliottiana, from seed sown in November, 1917, is very fine. And Lilium candidum, from seeds collected in Salonica and sown in December, 1918, is now in flower, tall, full-flowered spikes of exceptional vigour and health. Richardia æthiopica, sown in September, 1919, and given careful treatment, began to flower in sixteen months from seed sowing, and I thought this rather a feather in my cap, but perhaps others of your readers may be able to beat this quick record.—F. H. C., *Rye.*

PERNETTYAS NOT FRUITING.

I REGRET to see that an obvious error has crept into my letter on Pernettyas not fruiting, the words "male" and "female" being transposed. Most of your readers will have seen the slip, but it should be corrected, even though it is clear that my sentence should have read "the pistil being very long, and there being practically no stamens in the *female* form, while in the *male* form the pistil is quite short and hardly visible, and the little white bells filled with stamens full of pollen."—L. R.

ROCK GARDEN CONSTRUCTION.

THE descriptions of the Chelsea rock gardens which have recently appeared in THE GARDEN are full of interest both to amateur and professional, and it is largely through the sound judgment and measured criticisms in such reports that the great strides in rock garden construction and furnishing which have been made within recent years are due. If there is one thing more than another in these articles in which the striving amateur like myself rejoices it is the opinions expressed upon the error of forfeiting faithfulness to nature by the exercise of practices in colour scheming or extravagant design. Some of us are apt to indulge in too much "building" in rock garden construction. Nature never builds in her rock gardens. What she does is to adorn the ruin, to clothe with colour and verdure the crumbling wreckage of the raw work of her youth. That each one of us must form his plans to some extent in accordance with his surroundings must be granted, but it is a mistake to attempt to subordinate the surroundings by a too meretricious effort in construction. It is a mistake also to render any one mass of colour predominant. We must view the rock garden as a whole and, while noticing the individual plants, enjoy it generally as we would the glorious effect of an alpine meadow in June. The accompanying illustration of the rock gardens at the Tyn y Coed Convalescent Home, Llandudno,

A CORRESPONDENT'S "OBJECT LESSON."

nay afford the reader, as it affords me, an object esson in construction which is good because onstruction is entirely subordinated by the result. t shows what can be achieved on a perfectly lat plot of ground helped by no natural features. Here the effect of effort towards some ideal s absent, not because there has been no effort, but because, like a good picture, you see in the garden only that impression which it is intended to convey. The craftsmanship of the artist is subjugated by the beauty of the finished work.—A. T. J.

New and Rare Plants

No fewer than thirty-six novelties were placed before the Royal Horticultural Society's Floral Committee on June 7, but only four were selected for awards. The following are the most interesting of the plants on view:

Hydrangea Etincelant.—This is an excellent variety of the Hydrangea that figures so much in florists' shops during the late winter and spring. The trusses are very large, flattish and compact, and the rich rosy pink flowers are prettily crimped. Award of Merit to Mr. T. Stevenson.

Dianthus Ruy Blas.—A brilliant single Pink of perfect form, and apparently very free blooming. The contrast between the deep rose pink and the dusky crimson eye is most effective. It will no doubt be a good variety for both the lower parts of the rock garden and the flower border. Award of merit to Mr. M. Prichard.

Iris Ambassadeur.—This is an almost regal flower of Germanica type and one that should have a great future. The standards are of fascinating smoky purple colour, while the orange bearded falls are velvety purple maroon. Quite the Iris of the year. Award of merit to Messrs. G. G. Whitelegg and Co.

Potentilla Warrensii.—An excellent plant for the front of the hardy flower border. The rich yellow flowers are fully an inch and a half across and they open out quite flat. Award of merit to Mr. H. Hemsley.

Rhododendron brachyanthum.—One of the small-flowered section, somewhat of glaucum type. The waxy, pale yellow flowers have relatively long stalks. Shown by Mr. H. White.

Rhododendron Madame Moser.—The chief interest in this hybrid lies in the double flowers. The colour is deep pink, but the trusses have few flowers. The name of the exhibitor did not appear.

Buddleia alternifolia.—An exceedingly graceful shrub. The myriads of soft greyish lilac flowers are clustered around the previous season's growths, making long, graceful sprays of most fragrant blossom. The narrow leaves are about three inches ong, deep green above and silvery beneath. Shown by Mr. Lionel de Rothschild.

Veronica Teucrium Shirley Blue.—The basket of this dwarf variety was a mass of deep blue flowers. The spikes are shortish, but are well furnished with relatively large flowers. Shown by Messrs. B. Ladhams, Limited.

Chrysanthemum maximum Rentpayer.—This is probably the best of the hardy border varieties. The flowers have long stout stems and they are large and of pure colour. Shown by Messrs. Rich and Co

Dianthus General Friburg, V.C.—This dwarf Pink bears flowers quite as large as many border Carnations. They are very double, of deep crimson colour and moderately fragrant. Domino Noir from the same source is a similar flower, but duskier in colour. Shown by Mr. M. Prichard.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

General Work.—Late-planted herbaceous subjects must receive attention as regards watering during dry spells or they will be adversely affected during the rest of the season. Continue the staking of herbaceous plants. Regulate growths of Clematis and other climbing plants and lightly support as necessary. Border Carnations must be staked and moderate disbudding practised. Sweet Peas may be given a sprinkling of an approved fertiliser and the hoe used afterwards. Violets planted out to grow on for frame work next autumn must be kept free from runners and weeds, and on all hot days the plants should be well syringed late in the afternoon.

Campanula pyramidalis.—This plant is generally associated with the cool flowering house, but in warm districts it is excellent for border use. It is one of the most useful plants we have for growing on in pots to replace some of the early-flowering subjects on the borders. If potted into 7in. or 8in. pots and kept back as much as possible, the blue variety comes in useful to plunge between roots of Delphiniums when the display from the latter is getting somewhat spent.

The Kitchen Garden.

Late Potatoes.—Keep the ground free from weeds by hoeing, and previous to earthing up give the ground a forking over if at all set, as the work of moulding up can then be much more quickly accomplished. On light dry soils it is advisable not to pull the soil up too tightly to the stems of the plants or they will not be able to reap full benefit from the rain, a point which does not matter so much on stiffer and cooler soils.

Thinning Main Crops of Carrots, Beetroots and Turnips must be attended to as soon as possible after the seedlings are sufficiently advanced. The thinning of these crops is more important than the thinning of earlier ones, as each root or bulb must be given a fair chance of proper development, as it is useless to have to store only half-grown produce. A showery day is the best one to choose for the work of thinning, and after finishing give a dusting of soot and wood-ashes and use the Dutch hoe between the rows.

Plants Under Glass.

Azalea indica.—Failing a cool shaded house for these plants during summer a cool pit will do for them. Another method of treatment, and one quite suitable, is to place them out of doors under the shade of a wall or hedge, taking care to keep them well syringed to ward off thrips.

Winter-flowering Geraniums.—The final potting into 5in., 6in. or 7in. pots should be firmly done and the plants placed in a sunny position. Water must be most sparingly supplied until the pots are full of roots and even then it is far safer to keep Geraniums on the dry side.

Chrysanthemums required for exhibition and early work will probably have been potted finally before now, but main batch and late ones for general decorative purposes will be in ample time if done now. Use a good rough compost of two-thirds loam and one part leaf-soil and one part old Mushroom manure with some sand to give porosity.

Tree Carnations.—The young plants may be placed in cold frames where house room is insufficient, and the lights removed entirely except during heavy rains. Spray with soft water occasionally to keep plants clean and fresh, and fumigate at the first sign of fly. For final potting the pots may be anything from 5ins. to 8ins. across; for general purposes 6in. and 7in. ones will be found suitable.

Fruit Under Glass.

Early Vines with ripe or ripening fruit must have an abundance of air, and while the roots must not be allowed to suffer from lack of moisture, the amount atmospherically must be considerably reduced, and the little water which is given must be applied in the morning. Should the foliage of Black Hamburg or Madresfield Court not afford a good covering, a slight shade may be given at this stage.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Salads.—To keep up a constant supply of salads it is essential that regular sowings should be made. Lettuce sown fortnightly comes in nicely. If the weather is hot and dry it is well to have the soil rich as this encourages quick and tender growth. Sow thinly and thin out the seedlings to 6ins. apart. Small weekly sowings of Mustard and Cress should also be made. Sowings of Radishes should be made in frames which have been cleared of bedding material.

Broccoli.—Should showery weather prevail advantage may be taken to have the young plants put out. Have the ground reasonably firm so that stocky plants which will be well able to stand the winter storms may be obtained. Plant no less than 2ft. apart and afford generous cultivation during the growing season.

Tomatoes.—Continue to top-dress or otherwise assist in the swelling of the fruit by waterings of liquid manure; pinch out all lateral growths and stop plants where the desired number of trusses have set. This improves the quality and weight of the fruits retained and prevents the plants from wasting their energy on unnecessary growth.

Cucumbers.—Fruiting plants which may be getting somewhat exhausted should also be fed with liquid manure, while other successional lots must be attended to in the way of thinning, stopping and tying in of the shoots. In frames the main growths must be kept stopped until sufficient shoots are obtained to furnish the surface of the bed, when they may be allowed to come into bearing. Top-dress with nice loamy material, while if the weather remains warm the plants may be syringed morning and afternoon.

Fruit Under Glass.

Vines.—Second houses should again be looked over and where necessary subjected to another thinning, for however well the first thinning may have been done, there are always at this time a few more berries which may well be dispensed with, and the work is best carried out now when it can be done much easier and with less damage to the bloom than when left till they are a larger size. Keep all sub-lateral growths in check up to the time the berries are stoning, when this work may be somewhat relaxed for a period. Provided the borders are thoroughly drained they will require frequent waterings, when sufficient should be given at a time to moisten the soil thoroughly from the top to the bottom of the border.

Young Peach Trees should receive careful attention in the way of training so that nice evenly balanced trees may result. Utilise the best young shoots, training these as straight as possible from the base at different angles and equal distances. Where shoots are produced freely disbud with discretion, allowing the leaders to extend, but never allow overcrowding in any way. Keep the trees clean by syringing freely during bright weather, mulch over the roots with well decayed manure and so restrain evaporation.

The Flower Garden.

Decorative Dahlias.—These may be planted out without further delay and can be used with fine effect for large beds on the lawn or dotted through the mixed flower border. Where no special preparation has been given the soil it is well to incorporate some well rotted cow-manure when planting, as Dahlias are gross feeders and well repay this additional attention by an extra profusion of flower. Stake when planting, attending to tying as growth proceeds.

Herbaceous Borders.—Where borders have not been replanted for several years many of the larger groups enjoy a rich top-dressing of any old well decayed material that may check evaporation as it is most noticeable the limp appearance which some of the strong-growing subjects assume during a hot, dry spell, and in many instances watering large borders is quite impossible owing not only to water difficulties but to depletion of staffs as well. Perennial Asters and such like autumn-flowering plants will now require staking and tying. Keep the hoe going in all open parts of the border and so keep weeds in check

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

SINGLE PÆONIES (Dunmow).—The names of single and double) Pæonies are legion, consequently it is somewhat an invidious task to select "one or two good vigorous varieties, not high priced," particularly with no mention of favourite colours as a guide. But we feel that the following would be satisfactory: Albiflora simplex, white; Rosy Morn, blush; Abyla, rose; Twynham Glory, pink; and The Marquis, deep crimson.

SWEET PEA SEED (D. C.).—If the flowers that open first are allowed to "set for seed" this will materially reduce the crop of flowers. The plants could well be allowed to bloom for several weeks and the flowers be cut, as suggested, and then sufficient left for seed; but cutting should be suspended before the flowers begin to lose size, which they almost invariably do as the season advances.

NARCISSI AND LILY OF THE VALLEY UNSATISFACTORY (W. A., Lancashire).—As the bulbs have no doubt become unduly crowded this would account for the few flowers that have been produced this year. Daffodils and Narcissus should be lifted and replanted at least every third year when grown under garden conditions if good displays of bloom are expected. As soon as the foliage has turned yellow the bulbs should be lifted, sorted and laid out in the sun for a few days prior to being replanted. If possible, they should be grown in a fresh place, and planting may well be done as soon as the bulbs have become properly sun-dried. Fresh manure of any kind should be avoided, and generally the best organic manure for these bulbs is spent Mushroom bed, but thoroughly decayed farmyard manure, well broken up and incorporated with the soil may be used. Bone-meal at the rate of 6 ozs. to the square yard, is an excellent fertiliser for bulbous plants, and this may be used in addition to any animal manure. As the bulbs will certainly be of moderate quality only the largest should be replanted. A common mistake is too shallow planting. Daffodils should be planted at an average of 3ins. deep according to size of bulb and nature of soil. The bigger the bulb the deeper the planting, and deep planting on light soils are good rules to remember. The above remarks anent overcrowding apply also to Lily of the Valley, except that the crowns of this plant should not be lifted so frequently. If they are not badly overcrowded lift only a portion of the bed after the leaves have died down and top-dress the remainder so as to endeavour to get some flower-spikes, even if small, next year. All the lifted crowns should be sorted into three sizes, and if increase of stock is needed, all may be replanted. Otherwise retain only the required quantity of the larger. It must be borne in mind that the Lily of the Valley is a woodland plant, so it must not be expected to thrive in full sunshine. The best position is on a north border. In preparing the soil liberal quantities of leaf-mould and decayed manure should be added. The selected crowns should be planted so that the tips are just exposed.

TREES AND SHRUBS.

PROPAGATING THE ENGLISH HAWTHORN (A. E. C., America).—The "May Tree," as the English Hawthorn is often commonly termed, is usually propogated from seed. The "Haws," when first gathered, are spread out thinly to prevent heating and then laid in a heap to rot. The seeds are then mixed with fine soil or sand and buried about 6ins. deep. Where depredations of mice are feared the seeds are lifted and sown the following spring, otherwise they are left till October. Such hard seeds as these often remain dormant for a long period. The named varieties of Hawthorn are "worked" on the seedlings. The common Hawthorn is somewhat variable as to colour though the flowers are generally white, and it is not at all unusual to find them become pinkish a few days after they are fully open; this almost invariably happens with the double white variety. The degree of pinkness in the common Hawthorn depends to a great extent on the season and becomes most pronounced when the weather, at the time of blooming, is hot and sunny. During dull and cool seasons the flowers may not become tinged with colour at all, or only slightly so.

PROPAGATING SHRUBS (D. C.).—The easiest method of propagating Daphne Mezereum is by sowing seeds as soon as they ripen, that is, in the autumn. They should be sown thinly in sandy soil and placed in a cool frame. Failing seeds, we suggest layering a few of the lower shoots; layering is always an easier and more sure method for the amateur than cuttings. But if it is desired to try cuttings the best method is to insert ripened growths during the autumn, winter them in a cold frame, and transfer to gentle heat in the spring. Pyrus japonica should be treated in the manner advised for Daphne Mezereum. The best time to insert cuttings of Clematis Jackmanni is spring, when young shoots with a heel should be placed in a close propagating frame, but here again layering is an easier method for the amateur who desires to raise only a limited number of plants. Generally nurserymen bud the varieties of Clematis on pieces of the roots of Clematis vitalba or C. flammula, but some grow a proportion of their stock on their own roots. It will be remembered that a few years back there was considerable discussion in our columns on this vexed question.

MISCELLANEOUS.

PRESERVING GARDEN FRAMES (D. C.).—On no account should creosote be used as a preservative for any woodwork connected with plant culture. The fumes that are given off for a considerable time are most deleterious to plants. We have known several instances of serious losses through the creosoting of greenhouse staging, and even from wooden pathways which had been left in the open air for six weeks after they were dressed with creosote. In this last-mentioned instance such tender foliaged plants as Maidenhair Ferns, Heliotropes, Irisines and Zonal Pelargoniums were severely damaged. As an economical dressing of the wooden frames is desired we suggest lightly tarring the outsides, sprinkling well with sand before the tar dries, and painting the insides. The paint should be white or light drab in colour in order to have as much light as possible for the plants during the winter.

NAMES OF PLANTS.—A. G. B.—Iris squalens var.——N. G. H., Somerset.—Rose Mrs. Rosalie Wrinch.——"Rex."—Probably Acer distylum (Japan).——G. I. C.-B.—Probably Arctotis, which is a perennial, and requires greenhouse treatment, potted in light, rich, well-drained soil.

The Old Garden Columbines. — Beautiful and desirable though the long spurred Aquilegias are, there is a charm about the old garden Columbines (A. vulgaris) that the others scarcely possess. Where they do well—and there is hardly a garden where they do not—they sow themselves at will and many pleasant surprises await the patient gardener. Their varied colourings are all delightful and comprise nearly every tint except yellow and pure blue. There are fine purples, from those of a bluish shade to an almost inky black; many shades of rosy red and tender pink, as well as pure white and pale lilac. One of the finest is the large pure white, which, though unwilling to vary, has at length broken into a good light blue of the same size and quality; and there are a number of kinds with double flowers. Columbines are not only good in the flower borders in the end of May and the first days of June, but they are delightful in wood edges and half wild places. It is only natural that it should be so, as the native plant from which they are derived is found in copses and half shady places. The large white especially is a first-rate woodland plant; it is of such strong character that it resists outer influences, and though, after some thirty years of remaining absolutely fixed, it has now given a pale blue, such a deviation is a rare exception. The ordinary coloured kinds, on the other hand, mix freely and no one marked kind can be depended on to reproduce itself exactly.

Summer-Flowering Kniphofias.—One is accustomed to associate the Red Hot Pokers with the idea of stately autumn-flowering plants that varieties which flower at any other season of the year are scarcely ever seen in gardens. Yet there is quite a number of June and early summer-flowering forms that make grand plants, among them K. foliosa. This is a very stately and commanding-looking plant, reaching a good 6ft. in height with dense tufts of bold Yucca-like leaves and handsome spikes of unusually bright scarlet flowers, fading off to pale chrome yellow with age. The plants should be afforded a well sheltered and very sunny spot, for as they flower so early, they begin growth correspondingly early, and if in an exposed position, are apt to be severely cut by late frosts that so often occur. It is a good plan to bunch the leaves of K. foliosa in late autumn and tie them together at the top so as to form a thatch which keeps the rain and wet out of the crown.

The White Tree Lupine.—This Tree Lupine is always rather weak in habit, and if it is to be displayed in good bush form it must have some careful staking a good month before its time of blooming. This attention had been neglected in the case of a thriving young plant in a flower border; it has taken its own way and lies out upon the ground and looks so well that it has taught us a useful lesson in a new way of growing this pretty thing; as a well flowered spreading plant barely 1ft. high.

A Useful Campanula for the Rock Garden.—Portenschlagiana is a gem in the rock garden at present; will flower for some weeks and again in September—a time when the alpine garden is apt to get a little bare of flowers. The habit is very compact and tufted in its growth, with Ivy shaped light green foliage serrated all round the edges. The flowers, like tiny bells, borne in such profusion as to hide the foliage, are deep purple in colour, and the plants make an ideal edging to borders of hardy flowers, being especially valuable as they flower twice—the last time, when blue is a very scarce colour. Propagation is easily effected in autumn by lifting and dividing the older clumps into small pieces. This should be carefully done as the roots are thick and fleshy, and the less they are broken the better. We do not find that they succeed nearly so well when divided in the spring as in autumn, though the division should not be done too late in the year.

The Canadian Bird's-Foot Fern (Adiantum pedatum).—The Canadian Bird's-foot Fern is one of the gems of the hardy Fern garden at the present time, with its tall fronds reaching to a height of 18ins. or 2ft. on dense black, glossy stems, spreading at the top into a half-circle of further divided stems, carrying light green pinnæ. To ensure the most perfect plants you must give them a very sheltered position, for they commence to push up their young fronds too early for our treacherous spring weather and, if in an exposed part, you will find that they have been "caught" and seared by a late frost. For this reason they are often grown in pots in a cold house, but this is not necessary if you choose your place. Having had our plants damaged several years in succession, we decided to try what a fresh site would do. Partial shade was chosen, where the sun shone on the plants for a short while only, late in the afternoon, so that even if frost did touch them they would not be thawed suddenly early in the morning. Too moist a spot is also a mistake; they appreciate even dampness, but detest sodden wet. Under these conditions A. pedatum makes very handsome specimens from April to the end of August, and in nine seasons out of ten you will have no cause to complain of disfigured fronds.

A Violet-Scented Crab.—In several ways the Bechtel Crab (Pyrus ioensis flore pleno) is the most distinct and easily recognised of the Malus (Crab) group of Pyruses. The delicious Violet fragrance and large size of the individual blossoms, 2ins. to 2½ins. across, at once arrest attention. It is one of the last of the Flowering Crabs to open the delicate pink blossoms towards the closing days of May. As these are semi-double, having numerous petals, the flowers last in beauty longer than most of the family. The Bechtel Crab was first distributed by Messrs. Bechtel of Illinois, United States of America, in 1891 as Pyrus angustifolia flore pleno. Unfortunately, the subject of this note is also sometimes met with in gardens under the name of P. coronaria flore pleno. Its affinity, however, with P. ioensis is beyond dispute, the undersides of the leaves in this species and the Bechtel Crab being conspicuously woolly.

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THE GARDEN

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NOTES OF THE WEEK

[June 25, 1921.

AT the time of writing there is little sign of a break in the great drought, which is the worst experienced in these islands for a quarter of a century. Garden and orchard are in sad need of rain, while the agriculturist is in sore straits. The gardener who has at hand the means of giving company's water to his thirsty plants is little better off than the man who has to depend on stream or well indeed, unless conscience is deaf to the appeal which law may soon enforce, he is in the same strait There is nothing left but to use wit to circumvent and overcome difficulties. Free use should be made of the hoe; plants should be protected as far as possible with dressings of straw manure, grass cuttings, pulled weeds—which seem to flourish amazingly dryness notwithstanding—or anything else which ingenuity can suggest. Failing other means, use can be made of dressings of soil to protect the roots of plants from losing by evaporation what moisture they have.

Canada and Plant Nicknames.—On other pages in this issue will be found a delightful description by Lady Byng of Vimy of the garden of her Essex home. Beautiful as it is now, we have little doubt that Canada will contribute in due course to its floral treasures. Canada is rich in plant life—the Rocky Mountains alone provide fine opportunities to the lover of flowers, and that not only to the collector of rare plants. The traveller is amused by and interested in the quaint and uncommon nicknames bestowed on the wild flowers which flourish in profusion throughout the Dominion. Creeping Charlie (Nepeta Glechoma), Nimble Kate (Sicyos angulatus), Jack in the Pulpit (Arisæma triphyllum), Brown-eyed Susan (Gaillardia aristata), Bouncing Bet (Saponaria officinalis), Hen and Chickens (Dudleya Sheldoni) and Huntsman's Cap (Sarracenia purpurea) are examples of commonly used names which are in most cases more or less descriptive of plants which are known to our readers under their botanical names.

A Great Summer Show of Roses. — The National Rose Society's Summer Exhibition, in the Botanic Gardens, Regent's Park on Wednesday next, will provide the most extensive, beautiful and varied display of Roses in this country and probably the largest ever seen in any part of the world. As in former years, a popular feature of the exhibition will be the new seedling Roses shown for the first time. To the best will be awarded the greatest honour a new Rose can receive, viz., the coveted gold medal of the National Rose Society.

Those Horrid Insects—The tired man must not forget that, at this time of year, there is one drawback to his evening garden; gnats and mosquitoes can make things very unpleasant both for him and for his friends. In a garden that we know well the pests have been very troublesome during the past week. Most people have an infallible remedy. but it frequently fails to protect other folk! At the risk of finding that ours is equally ineffective when someone else uses it, we recommend a solution of lysol. We find that if to a little water are added a few drops of this disinfectant and face, hands, etc., are damped, the mosquito does not attack. It is only necessary to add sufficient lysol to make the face smart *very* slightly when it is first applied. We also find that when caught unprotected, if the punctured spot is pricked with a needle dipped in the undiluted disinfectant, much of the subsequent irritation is prevented. In India, where mosquitoes are very troublesome, free use is made of bamber oil.

AN ATTRACTIVE BORDER AND A HANDY STREAM

THE GARDEN OF THE GOVERNOR-DESIGNATE OF CANADA

BY LADY BYNG OF VIMY.

[Reference was made in last week's issue to the gardens at Thorpe Hall, Essex, the seat of Lord Byng of Vimy, the Governor-Designate of Canada. We are certain every reader will find pleasure and interest in the following description, from Lady Byng's own pen, of the manner in which a sadly neglected place has been transformed into a garden of delight. There is no need for the editorial pen to add anything to Lady Byng's epilogue. Her precept and example can be followed wherever opportunities exist. The joys of gardening are not dependent upon large spaces. Given the right spirit, the tiniest garden provides possibility for ingenuity and can give much additional pleasure to its owner who uses thought.—ED.]

A SQUARE, ugly, white house with a leaky roof; walls greened by the tear-stains of weeping trees so overhanging them that they exclude all sun and air; a blanket of Ivy obscuring the north and rampant Briars tapping against the south windows, while through the broken glass of a lean-to vinery on the southern wall forlorn tendrils of Vine waved in the breeze. Such was Thorpe Hall on July 12, 1913, when I first drove through the "well timbered, park-like grounds containing fine sheets of water," as the estate agents' catalogue described the place. There were about fifty acres of good, undulating pasturage, with splendid Oak trees and a sheet of water in the hollow. Beyond that one effort at truthfulness the estate agents had given rein to fancy with shocking licence. The "charming enclosed Rose garden" consisted of a dozen moribund Rose bushes behind a Privet hedge. The "tennis and croquet lawns" I never did succeed in locating, for there was no level ground anywhere, and the grass was getting on for knee-deep. However, there was a charm about the place, despite a jungle of Yews and Laurels that edged the house completely on the eastern side, and a sloping, rank meadow on to which the front door looked across a narrow drive fenced by iron railings. On the north-west front rose a 30ft. hedge of every conceivable abomination in the way of Brambles, Thorns, Hollies and Hazels. Long years of mutual antagonism had made them scraggy, though thick enough—thanks to the Brambles that bound them together—to form so complete a screen to a lake which lay behind them that Blanket Weed at least 2ins. thick covered its surface because no air penetrated the hedge. On the south of the house lay another piece of water, smaller in size and of a rigid, rectangular shape, buried in yet another tangle of trees and ill-grown shrubs. But through this I spied, to my amazement, the tops of two Eucalyptus Globulus standing at least 50ft. to 60ft. up. They opened my eyes to undreamt of possibilities in gardening and, I think, were the things which first made me seriously consider making my home here.

In the autumn of 1913 I set to work on house and garden. In the latter it was cut, cut, cut all day long, without making any appreciable difference, it seemed. However, when I returned from Cairo in the May of 1914, there really was some sense of space about the place and I was able to work on the more absorbing aspect of garden making, beginning with the south side, where, helped by my friend, Mr. Wallace now of Tunbridge Wells, I made a big flagged terrace leading to a small sunk garden paved with old red bricks from an unneeded wall in the back premises. In a corner of the sunk garden we struck a spring, which we converted into an octagonal Lily tank. To the west we had to make a lawn from the soil dug out of the sunk garden. Oh! that lawn! It remains my despair, for the ground is so dry and gravelly that the moment we cease to get heavy rain—and this is the dry belt—we have brown patches of earth and fissures, but no grass. Our soil is chiefly sandy gravel, with yellow loam, and in the woodlands a wealth of peaty leaf-soil in which Rhododendrons and Azaleas thrive. Springs there seem to be all over the place, though the house stands on the hardest, driest gravel bed I ever saw.

A LILY POOL MADE BY THE OVERFLOW FROM THE MAIN LAKE.

My friends the Eucalyptus Globulus, as though in gratitude for my clearance of the rubbish that was throttling them, proceeded in the summer of 1914 to flower and fruit, so that I secured several seedlings, some of which I lost through my own stupidity in not realising that they will only transplant at a very early stage of their existence. However, two remain to this day and are growing into fine trees. The Eucalyptus set me experimenting in all manner of plants, and having the good fortune to possess as a brother-in-law the late Mr. John Boscawen, then living in Cornwall, I begged everything I could get, and he was magnificently generous. From Tregye I brought back seedling Pinus insignis (now making good big trees along the drive), Gunnera manicata and G. scabra. The former, a small, single crown, planted in 1916 on the edge of the lake, now produces leaves measuring 7ft. 8ins. in diameter. In the case of both Gunneras, we merely lay their fading leaves across the crowns, letting them remain till the young spring growths push their way through, when we give as much manure as we can spare. Piptanthus; Clianthus pumila, which blossoms freely each year against a west wall; Calceolaria violacea, with its dainty little mauve speckled bells; a Lemon-scented Verbena which has now reached the first floor bedroom windows and is merely granted a handful of ashes over its roots in the winter and a severe pruning back to the old wood each year, are all hardy, despite the 1916–17 winter. Solanum jasminoides has raced Clematis montana and rubens for the roof of the house, and Ceanothus Veitchii, now well up to the second floor, has to be ruthlessly cut back every spring to keep it within due bounds. Lonicera Hildebrandiana is again among the rampant growers on the south wall, while L. Standishii and L. fragrantissima, further along, always provide great branches for winter decoration. Choisya ternata is almost too robust here; Salvia Grahami and the tall pink greenhouse one, whose name I cannot remember, are perfectly hardy in warm corners, and Benthamia fragifera has made a 4ft. 8in. bush with no protection beyond a selected spot. Among other tender plants, I have succeeded with the following on the rock

garden: Convolvulus Cneorum, a fine thick bush now; C. mauritanicus, which spreads its glorious blue mauve blossoms everywhere; Grevillea rosmarinifolia spreads itself happily; Fuchsia procumbens, a tiny plant which few people seem to know, forms an attractive grounding; while in a warm corner F. Riccartoni has reached 12ft. in height. Veronicas of all kinds seed themselves in profusion, but my greatest pride is a bush, 4ft. 10ins. high and 20ft. in diameter, of Eupatorium Weinmannianum, which I stuck in as a cutting on a warm south-west bank above the water garden. Drimys aromatica and Eugenia myrtifolia are making good little bushes, and I have hopes that Zauschneria californica is going to prove hardy here. Correa cardinalis has not done much since it came from either Ludgvan Rectory or Tregye—I forget which—but a dwarf silver-leaved Euonymus, from the former place, is a delightfully compact miniature shrub, of which I do not know the name and few people seem to recognise.

Of the sloping grass field, ablaze with Buttercups in 1913, where the caretaker's geese found a plentiful living, there was made in June, 1914, the first attempt at a water garden. The sluice from the lake above it was so altered that the overflow, instead of wasting itself in a ditch, supplied several smaller ponds for coloured Water Lilies. We have increased the ponds for two reasons: first, to diminish labour by having water where scything of rough grass was otherwise needed; secondly, to accommodate the rapidly increasing collection of rock plants and tender specimens which needed special attention. The overflow ponds (which are also vastly helped by several springs under their surface) are made about three times the size they were. The earth removed—fortunately of the most lovely loam, siltage, and a certain amount of clayey subsoil—is being piled in banks and hillocks where the rocks from every other part of the garden are being gathered together, in company with some iron-stone boulders which, for some unknown reason, a wasteful War Department laid at the bottom of a temporary road in the village. It was a form of ill wind that, if it wasted the taxpayers' money, proved of value to the new owner of the land, and also to myself in the possibility of purchasing, on the spot, what I could most certainly never have afforded to get from Yorkshire or whichever remote county the boulders originally came. Thanks, therefore, to this Government waste my rock garden grows apace, and the rarer plants are finding the most congenial of homes. On the pond edge facing north are a collection of hardy Ferns, early flowering Primulas—P. rosea and P. capitata—with drifts of white Heather, a belt of Hydrangea paniculata which has been starving in a dry corner, and low-growing Rhododendrons. Against a big mass of Dogwood these should form a grand colour scheme, especially as a tree of golden-leafed Maple rises above them. From this natural fall the ground itself rises sharply towards the house and, artificially, is in process of rising much higher. Behind it, to break the big space of grass that would still need scything, I am planting groups of bush Pear trees, which have been unsatisfactory croppers, though they blossom abundantly. I think that very often when a fruit tree is exiled from the fruit garden it might—if a free bloomer—be placed in the pleasure grounds, for long sprays of bloom cut in spring are a great joy, and one can thus treat discards without any feeling of sin. Another planting is of Olearia macrodonta and Cydonia Maulei seedling; while under a spreading Juniper, on a spur of the rock garden, are the colonies of Primula malacoides and [illegible] which, under a grandfatherly Yucca gloriosa, have already withstood many winters in the open, also seeding themselves profusely. A little island at the head of the water garden is carpeted with Erica carnea, E. vagans, and Irish Heaths, while E. mediterranea and E. codonoides are rapidly growing into young trees. The lawn on the west of the house is the only piece of "kept grass" I have allowed. Grass edges are reduced to a minimum, and beyond the lawn—or tennis court, which it will be some day—there are only the paths in the water garden, and one straight path leading, on a lower level from the lawn and between broad herbaceous borders, to the fields that give us a short cut to the station. I have tried, and am still trying, to reduce labour, and the reduction of mowing is, I think, the greatest economy of all. Mown grass is very stately, of course, the shadow effects delightful; but I fear these are luxuries of a pre-war age, and flagged terraces, bricked gardens and thick planting are the only solution I have been able to find.

But, after all I have written, I find that no word of the more utilitarian side of gardening has escaped my pen; but it has not escaped my labours—or, rather, those of Moore. We provided a hundred and fifty men of the R.A.S.C. quartered in this village with all their vegetables and Potatoes during the war. Since then we have marketed in Clacton-on-Sea, whither "Matilda," the "demobbed" Army mule, takes in a cartload of produce twice a week. I believe that if you begin marketing you must subserviate everything else to it or else it is not worth doing. It was our intention to diminish the acreage of kitchen garden, therefore our labour, and only sell such actual surplus as we had; but we intended to increase our fruit production, if possible. Of course, these have been lean years in that direction because the whole thing had to be made from the start. There were no fruit trees, no Cherries, no Currant or Gooseberry bushes and no Raspberry canes. Everything had to be bought and grown on, and it was only this past season that we have had a really good crop of Peaches off the south wall and Pears, both to eat and preserve. In days to come I hope there will be enough to sell in biggish quantities. Fruit marketing would pay, I believe, handsomely, far better in proportion than vegetables.

I have responded to the Editor's request to tell my fellow readers about this little garden for a definite reason, namely, to encourage them to make experiments and gardens. There is nothing so delightful, nothing so wholesome for mind and body, as making a garden and enjoying its fruits. If it has been possible—I sometimes wonder *how*—to a great extent, to make part of this garden during the war, it is easier to do so now. I hope that many of my fellow amateurs will follow my seemingly mad experiments, if they care to do so, and find as much pleasure and success as I have had so far here.

Some of the Later Brooms

ON the hot, shaley soil of this Carnarvonshire garden Brooms are, naturally much in evidence, and among the later-flowering kinds one of the most satisfying is Genista virgata. This because it is a perfectly easy doer in the poorest of ground, because it is quickly raised from seed, and because it makes a big, bushy shrub that is smothered in small yellow flowers for many weeks of summer. Old specimens of this species are apt to get tall and lanky, but, since propagation is such a simple matter and growth so rapid, there is no need for anyone to put up with such. The hardiness of G. virgata is unquestionable. Though a native of Madeira, it has here safely come through frosts which have turned common Gorse quite brown.

Another fine subject for sun-baked, barren land is the Sicilian Broom, G. ætnensis, a peculiarly elegant species that will attain the height of a dozen feet and more, and which generally assumes a weeping habit. Though practically leafless, G. ætnensis throws out in spring more or less pendulous shoots of a tender green which bear in full summer, in addition to a few silky leaflets, brilliant creamy yellow blossoms prettily poised like butterflies on the fresh, drooping growths. This species, again, is easily raised from seed and, so far, we have found it almost as hardy as the foregoing. G. ætnensis takes some time before attaining its full beauty. For the first few years it flowers sparsely, but when the main stem begins to assume the dignity of a trunk it will become veiled with a mass of Rush-like branchlets all bearing their pretty and fragrant clusters.

Perhaps the most valuable of the better known late-flowering Brooms of the Cytisus group is C. nigricans. In this species we have one which will often be at its best in August when most flowering shrubs are getting over, and when grown in the mass the multitude of small yellow flowers, which are borne on 9in. terminal spikes of the current year's growth, produce a fine effect. Like most of the others, C. nigricans enjoys a sunny aspect and rather poor land. A stock may be raised from seed without difficulty, and though mature plants will attain a height of 6ft., young specimens very quickly begin flowering. C. nigricans is the better for a little pruning back in early spring, this encouraging the new growth on which the summer display depends. The variety known as C. Carlieri is an improved form of the above.

In seasons like the present, when the common Broom (C. scoparius) blossomed early, the late-flowering forms of this species are particularly useful and welcome additions to their charming race. That they are really late bloomers may be gathered from the fact that from my window as I write a bank of the common Broom is just in that shabby stage between flower and seed-pod. Among these bushes are several of the late-flowering forms, and since these will not be in blossom for a few weeks, they are still as green as they were in December. In all other respects the late Brooms are like the type. But cultivation appears to have given them more vigour than one usually sees in the wild shrub. The flowering branches sweep upwards or hang down with greater freedom, the blossoms are generally larger, and they have all those advantages of a more advanced season that are denied the native type.

Spartium junceum is Broom enough to be included in these notes, but the distinctive merits of this splendid subject are too familiar to most of us to need more than a passing mention. So, too, Spartium Carmichæliæ, also with Rush-like twigs, which are studded with rosy pink flowers in early July, is also near enough to the Brooms to be included in any grouping of these elegant shrubs where the soil is light and warm and the climate not too severe. Yet another delightful shrub sufficiently Broom-like, here grown under the name Corniola mantica, bears from June onwards bold 9in. spikes of orange yellow blossoms. This seems perfectly hardy. It is easily propagated by cuttings, and one that with us is amply satisfied with the kind of soil that most of the Brooms enjoy. C. mantica is a subject worthy of a good place, and it does not object to half-shade.

CAMBRIA

PRESENT ROSE TROUBLES AND SOME REMEDIES

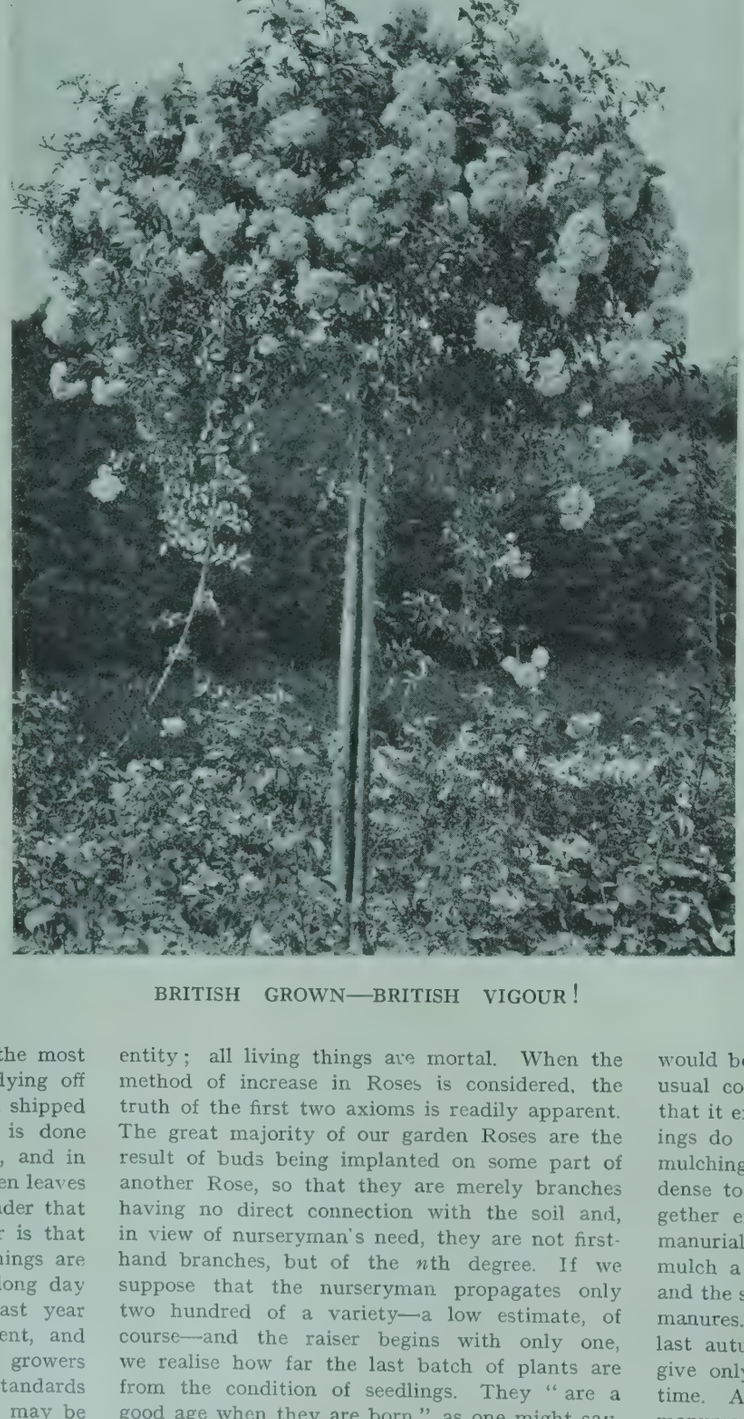
In a number of gardens the Roses are not so satisfactory as their owners would wish. The following article is of great present interest in that it explains the causes of some failures and suggests ways of avoiding them in the future.

"WHAT is wrong with my Roses?" is a question which is all too common to-day. Doleful tales are told of Roses that "broke" badly, of whole branches that did not break at all and, much worse, of Roses that died without so much as a bud bursting. And, to intensify the trouble, in many gardens fungoid and insect pests are rampant. So that, altogether, it would seem that there is something radically wrong in the kingdom of the Rose.

The mortality nearly always concerns a large proportion of new bushes or standards that were planted last year, and when these standards cost as much as 7s. 6d. each and the dwarfs were proportionately high-priced, the seriousness of the state of things is increased. On investigation it is usually found that these unsatisfactory Roses were grown in Holland. *Bona fide* British budded and grown Roses rarely suffer from this fatal complaint. This tendency of Dutch Roses to die off soon after arrival has long been known to our growers, but as the greater proportion of this Continental stock went to America in former years it did not much matter. Now that the gates of the United States are closed to such types of horticultural produce and there was an unavoidable shortage of Roses in this country many of us were tempted to plant up our Rose beds and borders with Dutch Roses rather than none, and are paying the penalty. Personally, I have no excuse. I knew better, or rather knew the risk I was running; but I wanted Roses for this year and felt I could not wait. I am still wanting Roses, for the majority of the standards are dead and the dwarfs are mostly breaking only at the ground line.

Why They Die.—Many reasons have been advanced in explanation of this unfortunate trick of the Dutch Roses. The soil, an unsuitable stock and the low-lying position of the nurseries have all been carefully considered. Regarding the stock many aver that the increased use of Rosa rugosa is all wrong and responsible, but of my *dear* dead standards most were on Briar. An authoritative statement, and to me the most feasible, from Holland, attributes this dying off to the fact that the Roses are lifted and shipped too early in the autumn. The lifting is done before the growths are properly ripened, and in the course of packing flower-buds and green leaves are pulled off. This being so, small wonder that so many of the Roses die. The wonder is that any live. Be all this as it may, two things are pretty certain. One, that it will be a long day before we who planted Dutch Roses last year will be tempted to repeat the experiment, and the other is that most of our own Rose growers will be able to meet all demands with standards and dwarfs of their own growing, which may be relied upon to live and satisfy us.

Roses Cannot Live Always.—The present unsatisfactory condition of established Roses is what we may term a home matter, and in a number of cases may justly be ascribed to our old friend *c'est la guerre* or should it not be our still older familiar *anno domini*? We are all too prone to forget several truisms that should be obvious. The garden Rose is not, in the general sense, a tree or a shrub; unlike a seedling, it is not a true entity; all living things are mortal. When the method of increase in Roses is considered, the truth of the first two axioms is readily apparent. The great majority of our garden Roses are the result of buds being implanted on some part of another Rose, so that they are merely branches having no direct connection with the soil and, in view of nurseryman's need, they are not first-hand branches, but of the *n*th degree. If we suppose that the nurseryman propagates only two hundred of a variety—a low estimate, of course—and the raiser begins with only one, we realise how far the last batch of plants are from the condition of seedlings. They "are a good age when they are born," as one might say. All this being as it is, we must reconcile ourselves to the inevitable—that the life of a Rose in our gardens is bound to be shorter than, under similar conditions, that of a seedling shrub or even one raised as a cutting.



BRITISH GROWN—BRITISH VIGOUR!

For nearly a decade we have not renewed our Roses with the same frequency as before, so that it is small wonder to find them become, through age, less vigorous after having been pruned than of old. This annual severe pruning, to say nothing of the frequent cutting of flowers with long stems is a great strain on the recuperative powers of any plant. In the matter of pruning we are harder on our Roses than probably any other subject of the garden.

The Way of a Rose is Hard.—Nor is this all. During the past few years we have "had no winters." Roses, particularly, have been growing all the year round without proper rest, and when the season arrived at which we hoped for vigorous growth capped with glorious bloom, they have been unable to respond to the call of spring. These are the combinations of circumstances which have contributed in no small degree to the unsatisfactory condition of the Roses in many gardens. But it is often easier to correctly diagnose the complaint and to review contributory causes than to prescribe effective remedies.

The dead are, unfortunately, beyond all remedial measures and, with these, it simply remains to grub them out and replace them next autumn. The great Regent's Park Rose Show next week will provide an excellent opportunity for selecting and ordering new Roses. With regard to the Roses of which whole shoots are dead, there are two courses open—the compassionate and the drastic. If they are old bushes and more than a third of the branches are dead or dying any treatment that entails appreciable time and expense would be unprofitable. One should harden one's heart and decide to replace them later in the year. Many of the others will no doubt respond to a little coddling and nursing. The best cultivation possible should be the order. Hoeing should be a frequent operation. Watering is an individual matter. Lately water has been greatly needed by all plants, but with a full knowledge of the water difficulties in many a country garden I refrain from saying any plant must be watered. Hoeing and mulching will do wonders as substitutes for watering if intelligently carried out. But towards the end of these hot days spraying with clear water any delicate or backward plant is to be recommended. A mulching of farmyard manure would be beneficial, but it should not be of the usual country pie-crust order, so heavy and stodgy that it excludes all air and sun-heat; such mulchings do much more harm than good. The ideal mulching for weakly Roses should be sufficiently dense to moderate the sun-heat, yet not to altogether exclude it, and it should be of medium manurial richness. In the absence of a farmyard mulch a variety of substances can be employed, and the stimulant, if needed, provided by chemical manures. If the Roses received the usual dressing last autumn or spring it would be advisable to give only a very light stimulant at the present time. All of the best known proprietary chemical manures are good and should be applied according to the makers' directions; or if it is wished to

mix a stimulant at home, 2lb. of sulphate of ammonia and 6lb. of superphosphate well mixed together and spread evenly over each square rod will be beneficial. But none of these fertilisers should be applied while the soil is very dry. To derive full value from them the soil should be moderately moist when the mixture is applied and, unless rains are expected, another watering should be given.

To Make Them Rest.—The climate is beyond our control, and we have to take it as we find it; but the thoughtful cultivator will adapt his methods to meet the changed conditions, and he will adopt such as will be harmless should there be a return to the severe old-fashioned winters. The way seems to be to endeavour to induce our garden Roses—particularly the beautiful Hybrid Teas, for it is these that most require it—to take a fair meed of rest during the winter months. To arrive at this desired state no stimulating manure should be applied later than August. If towards the end of September the Roses are soft in their wood and do not show the well known signs of ripening their shoots, an application of phosphate will do a deal to remedy this. The precise amount is a matter for individual consideration, and should be regulated by the nature of the soil and its previous treatment, but as an average amount 4ozs. of superphosphate to each square yard will be found suitable. A. Cecil Bartlett.

THE FLY THAT DRIVES US TO DISTRACTION

THE question of the day in gardening circles is not "Where do the flies go in the wintertime?" but "Where do the flies come from in the summer?"—those flies of course that swarm in myriads on our best trained Pear and Plum trees, and that curl up the foliage of our young pyramid Apple trees, that until a week or so ago looked so healthy and promising. There are flies that are green, others that are black, some are red, and some purple, some are minute and apparently motionless, while others are of quite considerable size, possessed of wings, and are very restless and far too industrious.

The entomologist christens each with a distinctive scientific name, but whether our particular unbidden and unwelcome guest be correctly called Aphis sorbi, or Aphis pomi, or Aphis pruni, we shall still maintain that it is as correctly described a wretched pest, and though we have known "blighty" seasons often before, it seems to most of us that there never were so many flies in our trees as this year.

As to where they come from, well, I have explained in these pages in previous articles that the first batch of the season hatch out from eggs laid in the joints and crevices of the bark by the last generation of females in the previous autumn. It is only that last batch of females that are oviparous (egg-laying), and the first batch of spring, and from then till the following autumn the females are viviparous—producing live progeny. It is computed that one female Aphis may be the parent of five generations in a season, and that her descendants may number as many as six millions in one year. No wonder, then, that after several rainless weeks, constituting favourable conditions for all varieties of aphides, we find the flies on our trees as numberless as the sands upon the sea shore.

But gardening would not be half the pleasure-giving occupation it is if there were no difficulties and drawbacks to combat, for we should not feel those thrills of pride and satisfaction as we contemplate successful results of our cultural prowess if all our plants were able to attain perfection without the aid of our skill and tender care. After all, it is not such a difficult matter to kill green fly or its variously coloured kinsfolk. The purpose of this article is to deal with the pests of fruit trees, but the remarks may equally apply to Rose aphis, and those that infest the various plants in our herbaceous borders.

The best time to commence spraying is *before* the trees become badly infested, but when the fly has come, the worst thing to do is to put off spraying until to-morrow.

Spray at *once*, as often as possible, and continue [illegible] until the trees are perfectly clean. It is worth it, because the harmful and weakening effects of the incessant sap-sucking of millions of aphides are so great that it is not worth while growing fruit trees if they cannot be freed from aphis.

As to effective sprays, there is no lack of them. Years ago we relied upon soft soap and quassia, or upon soap and paraffin. The former is good enough as a deterrent, but its actual killing power is not great. Paraffin will kill, but crude home-made mixtures are unsatisfactory. It is difficult to get paraffin such as is used in the household perfectly emulsified, and without a perfect solution there is danger of damaging the tender points of the young growths. If one wishes to use a paraffin wash, it is best to purchase a proprietary mixture that is a preparation put up by people who have facilities for securing satisfactory solubility and uniform strength.

Personally, when spraying, I would prefer to take pains to get the most powerful fluid, having due regard to safety, and I am convinced that the greatest power is to be found in sprays that contain nicotine. This and any other poisonous compound cannot, of course, be used where fruit is nearly ready for gathering, but all trees should be freed from aphis long before the fruit arrives at an eatable stage.

There is one point I wish to mention, and it is one that is seldom noticed, even in manufacturers' directions for use of their insecticides. I always believe in mixing my wash the day before I apply it. That is, I am prepared to maintain the secret of successful results as compared with frequent failures. I do not mind how good an insecticide may be, it cannot be so rapidly soluble that its full power permeates a body of water of several gallons in the space of a few moments. I have often recommended the use of sprays that I know to be excellent and powerful, but have been told after their use that they have failed in their work. I have then mixed a few gallons, allowed the mixture to stand twenty-four hours before use, and the spray has accomplished all that was expected of it.

Use a good machine, with a fine spray nozzle. Remember that the finer the spray the more evenly and thoroughly the surface of the leaf will be covered. It is not necessary to drive such a volume of liquid on a leaf that much of it runs off and is wasted, for far better results are secured by conveying a mist like spray that will lightly rest on the foliage and stay where it falls. At this time of year a still afternoon or evening is the best time to spray, and, of course, it would be folly to waste chemicals just when it is evident that rain is about to fall. Whenever possible, let a second spraying follow within three days of the first.

A. J. Macself

PRUNING FLOWERING SHRUBS

WHEN it is necessary to prune spring and early summer-flowering shrubs the pruning should be done soon after blooming. This encourages the growth of vigorous young shoots on which next season's flowers are borne. The best time to prune largely depends on the time of flowering. In a broad sense shrubs which develop their blooms in spring and early summer should be attended to soon after flowering, while the pruning of late summer and autumn-flowering shrubs is best done in February and March. The three main objects are:

(1) To encourage the development of vigorous young shoots.

(2) The thinning of the growth, removing as much old wood as possible in order to allow the sun and air to ripen the new shoots.

(3) The training of each bush into a good shape to fill to the best advantage the allotted space.

Some of our most beautiful flowering shrubs need little or no pruning. They appear to resent the use of the knife, which may easily spoil their beauty. The Magnolia may be cited as the best example of a shrub which it is desirable not to prune. With most flowering evergreens no definite line of pruning can be followed. It is usually only necessary to keep the bushes shapely. When they become too large for their positions or lanky in growth hard pruning, just as growth commences after flowering, is desirable. This treatment with a Rhododendron, for example, means the sacrifice of a season's flowers, but it pays in the long run.

Shrubs to Prune as Soon as the Flowers Fade.—Berberis stenophylla: This evergreen Hybrid Barberry only requires pruning when the bushes grow too large. Ceanothuses: Those which flower in spring are evergreen and mostly grown on walls, spur back the growths which have flowered to keep the plants shapely. Clematis montana and var. rubens: Remove old flowering growths back to where new shoots are pushing. Cydonias: Prune on walls and trim bushes growing in the open to keep shapely. Deutzias: Cut out an occasional old growth down to the base and remove shoots which have flowered that are making little or no new growths. Diervillas: Remove several of the oldest growths, cutting to the ground to thin bushes, and tip back others to vigorous young shoots. Forsythias, the climbing loose-growing form of F. suspensa (Sieboldi), should be pruned hard (spurred); F. intermedia spectabilis only requires moderate pruning. Jasminum nudiflorum flowers best when pruned hard back to within a few inches of the old wood. Kerria japonica fl.-pl. (the double-flowered Jew's Mallow), should have the oldest stems cut out to the base and the shorter flowering pieces nipped back to vigorous new shoots. Philadelphus (the Mock Oranges) should be liberally thinned, removing flowering shoots. The dwarf-growing P. Lemoinei erectus gives good results when the old stems are cut to the ground as soon as the flowers fade. Vigorous sucker-like growths then push up to take their place. Prunus japonica fl.-pl. (pink and white) and P. triloba fl.-pl. should have the flowering shoots spurred back to within 1in. or 2ins. of the old wood. Ribes sanguinea (the Flowering Currants) do not need pruning, but are improved by thinning and trimming the shoots. Syringa vulgaris varieties and the named varieties of Lilacs should have all the old flowers removed and the young growths thinned. Spiræas: The spring-flowering species and varieties are improved by thinning, those responding to the most liberal cutting being S. Van Houttei and S. prunifolia fl.-pl. Wistaria: To keep this beautiful climber in the best condition the long young shoots, unless

required for extension, should be shortened (spurred back) several times during the summer.

Examples of Flowering Shrubs that should not be pruned till February and March.—Bignonia radicans and B. grandiflora, Buddleia variabilis and varieties, Colutea arborescens, Caryopteris Mastacanthus, Ceanothus Gloire de Versailles and other named sorts, Clematis Jackmani and late-flowering varieties, Cytisus nigricans, Fuchsia Riccartoni, F. corallina, F. macrostemma, etc.; Hydrangea paniculata and var. grandiflora, Hypericums, Indigofera Gerardiana, Pyracantha coccinea and Lelandii, Spartium junceum, Spiræas Anthony Waterer, Lindleyana and other summer and autumn flowering species and varieties and Tamarix pentandra (hispida æstivalis). A. O.

OUTDOOR TOMATOES and THEIR SUMMER TREATMENT

FORTY years ago, or perhaps longer, the Tomato was looked upon more or less as a harmless curiosity. A few were grown in pots under glass in most gardens for the decoration of the conservatory, under the name of the "American Love Apple." Gradually its value became appreciated, in the first instance, as a salad plant, and later its fine qualities for general use asserted themselves. To-day the Tomato is grown on commercial lines, under glass and outdoors, in this country to the extent of hundreds, if not thousands, of tons—to say nothing of those grown privately.

The requirements of the Tomato outdoors are simple and few. The following are the points we have chiefly to consider: The border in which it is to be grown, its position, the quality and nature of the soil and its preparation, or whether to grow in pots, boxes or tubs. The sorts, their condition, and time to plant. The act of planting; how best to carry out. After-culture during summer.

We must first remember that we have only about three and a half or four short months at our disposal for growth, say, from the end of May until the middle or end of September. Within this time the plant has to complete its growth, bear its flowers, form its fruits and develop and ripen them. This means, if we are to make the best of the crop, that intensive culture must be adopted from the first. The best position for growth outdoors is a border at the foot of a warm south wall. In this position as good fruit and as heavy a crop can be grown as under glass.

Borders in the Open, whether in field or garden, should, if possible, be sheltered from north and east winds. A south aspect should be selected, but in our warmer counties and on light, fairly rich soil a south-west or even a western aspect will do.

The Soil of the Border.—A soil that will grow Potatoes will suit Tomatoes admirably. Ordinary garden soil with a good depth of mould, on the light side as to texture, with a liberal addition of short stable or farmyard manure added, and a generous scattering of lime on the surface of the soil after digging, will afford an excellent medium for growth.

Plants to Use.—Much, very much, depends on the strength and condition of the plants at the time of planting. If they are small, weak and drawn in consequence of having been subjected to too much heat, a month of valuable time will be lost in the recuperation of the plants. The plants should be a foot high, sturdy and strong, already showing flower, and even a fruit set here and there. Such plants, set with care and in the right medium, will at once start away into healthy and fertile growth, and are sure to give an excellent account of themselves, and that in good time. There are innumerable varieties to select from, and all practically good. If plants are obtainable of Sutton's Earliest of All I should prefer this The great desiradatum, however, is to obtain strong sturdy specimens to plant out. It is now too late to sow seeds.

The Act of Planting.—Give a little time to this work. Do not be in a hurry over it, as I fear is usually the case. See that the soil they are planted in is not rough and lumpy, but carefully pulverised and prepared for the roots to dig into the same at once. Let the ball of roots be planted 4ins. deeper than they were before, and see that the soil is carefully pressed round the roots. Planted thus deep, the plant will emit new roots from its stem, thus adding considerably to its strength of growth. Give a good soaking of water immediately planting is finished. The rows should be 16ins. distant, the plants in the row 15ins. apart.

Planting in Pots, Boxes or Tubs.—Good results are obtained from this manner of planting. It appeals especially to residents in town and suburban gardens, where garden space is limited. Pots, boxes or tubs may be placed on walks or odd warm corners round the house. They can be shifted from place to place if desired, but the plants must be in the sunshine. Soil of the same nature will do for these, but it will be improved if a little maiden loam be added to it. Let the pots or boxes be carefully drained, but do not over-drain by placing too many crocks at bottom. One large potsherd over the hole, and two or three smaller ones over that, will be sufficient. Cover the crocks over with a thin layer of partly decayed leaves, or the rougher part of the soil, to prevent the drainage being clogged by the finer soil drifting into it. Half fill the pots (or whatever receptacle is used) with sufficient depth of soil to cover the roots, adding more soil as the first part becomes filled with roots, until the stems have been buried to the depth of 4ins., pressing the soil down firmly. New roots will issue from the stems into the added soil. A 12in. pot will accommodate two plants (planting them at the side of the pot). Boxes or tubs should be at least 12ins. deep, and one 12ins. square will hold two plants, and larger ones accordingly.

Time of Planting.—This will vary according to the district, whether cold or warm. In the latter the end of May or early in June when fear of hard frost is past; in colder districts it is safer to defer the planting for ten days or a fortnight.

Summer Culture.—Stake the plants securely, and give a good soaking of water immediately after planting. See that the plants are well watered the night before planting; give another good soaking within a week afterwards. In the case of border plants, mulch the ground over as far as the roots extend (which is not far) with well rotted manure, say, 3ins. deep. This will not only keep the soil moist for a long time, but will feed the top roots as well by encouraging them to root into it. Water occasionally afterwards in dry, hot weather.

The Main Stem and its Side Shoots.—You will find that during the season of growth side shoots will issue from the main stem. Each of these side shoots should be rubbed off with the finger and thumb as soon as they are formed. The main stem must not be shortened until four or five bunches of fruit have been formed. Then the top should be cut off, as the plant cannot develop and ripen more than this number outdoors. The same remarks apply to plants in pots. These, of course, will require greater care in watering and a more frequent application, especially when bearing heavy crops of fruit, sometimes twice a day in hot weather, using liquid manure at every other watering. Peruvian guano is excellent to make this with, adding a moderate handful to three gallons of water, well dissolving the same. Soot, as a change, is excellent applied in the same way.

Worms in the Soil.—Should these prove troublesome, as they frequently do, slake a gallon of lime in five gallons of water, letting the same stand for twelve hours, and water with the clear water only.

Fertilising the Blossom.—Few care to take the trouble to do this in the case of plants growing outdoors, but it pays well for doing, however. It is the means of increasing the crop very considerably. To do this get a rabbit's tail and draw its soft side over the anthers of the flowers when the pollen is dry and ripe and afterwards draw it over the stigma of the flower, which is its centre column and embryo fruit. OWEN THOMAS, V.M.H.

Gold-Laced Polyanthuses

SEEDS of Gold-Laced Polyanthuses should be sown in July as soon as they ripen. On no account should they be dried in the sun and stored away until spring. Should seeds be procured later than July, then they ought to be sown on arrival. Choice kinds must be sown in pots or boxes either in a cold frame or unheated greenhouse, not with the idea of providing additional heat above that of the outside air, but merely to provide against accident and to lessen the depredations of slugs, heavy rains and cats. Should snails or slugs inhabit a frame, they may all be destroyed in a few days by using half a dozen inverted flower-pots as traps. In case neither frame nor greenhouse is available, then the pots containing the seeds may be placed inside larger pots, packing the cavity with moss or leaf-mould and covering the whole with a sheet of glass. The receptacle may then be placed close to a wall or building, taking the usual precautions to prevent the entrance of worms.

The writer finds that the main point requiring attention is to provide a sufficient supply of moisture, and this does not mean that water may be applied by means of a fine-rosed can. On the contrary, the surface of the soil must not be beaten down on any account. The old generation of florists used to dip a clothes brush in water, drawing the hand smartly over the bristles, thus causing the moisture to fly off and fall on the seeds like a mist. A spraying syringe such as is used for fungicides is a first-class tool for watering seeds, and it may be used several times daily. The operator stands a few feet away from the seed pots and directs the spray of water, like a cloud, into the air above the receptacles. The writer never immerses in water vessels of any kind containing seeds of any Primula species because he believes it is an advantage to preserve the aerated condition of the soil as long as possible. Provided the surface soil is kept moist the essential condition is being observed.

Young plants with three leaves will be available during August from new seed sown in July, and should be pricked out into boxes of soil just moist (a quill toothpick is a good tool) and watered by the method just described. These young plants will make rapid progress if sprayed twice or thrice daily during the autumn, and they may remain in cold frames until spring, when they must be

planted out in drills running east and west. A sandy loam containing leaf-mould is the best compost for seed raising, and a sprinkling of silver sand on the surface makes a good bed on which to sow the seeds. A very slight dusting with powdered charcoal completes the operation of seed sowing. On no account should the seeds be buried or they may fail to germinate.

These remarks are intended to apply to the florists' Gold-Laced Polyanthus, a plant which does not possess the vigour of the ordinary garden kinds. Seeds of the latter, when plentiful, may be sown at any time in the open ground in drills 3 inches deep, the resulting plants being transferred to their flowering quarters when large enough.

Seedlings of Gold-Laced Polyanthuses require abundant ventilation at all times, even in winter, and water should not be withheld after the middle of January, as they renew growth about that time.

GEORGE D. A. HALL.

Garden Notes from a Western Seaboard

BY SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

THE most brilliant herb in the borders just now (June 9) is Hippeastrum pratense, better known by its old name of Habranthus. This Chilian bulb is not appreciated by amateurs as it deserves; at least, one does not often see it in gardens. It is perfectly hardy and increases satisfactorily; a stock is soon raised from offsets. But the hue of its graceful blossoms is so flagrant—intense orange-scarlet — that one has to be careful about the company assigned to it. This morning I marked one clump for removal, for it had in front of it a plant of Geum Borisii, with flowers the colour of red lead; while behind it was a bush of Buddleia globosa loaded with orange balls. All three are choice plants, but between them they set up an insufferable discord. Another flower that must not be allowed to clash with the Hippeastrum is the red variety of the Pyrenean Lily (Lilium pyrenaicum rubrum), whereof the jaunty Turk's caps are painted with the same hue in a slightly lower key. Lily experts set small value upon this species both in its yellow and red forms. Mr. Grove does not so much as notice the red variety, and, after remarking that the yellow Turk's cap is "of the easiest culture," dismisses it as being "not a thing of beauty," producing flowers with "a peculiarly objectionable smell." Well, tastes differ. I suspect that if this good-natured plant demanded coaxing as sedulously as L. Leichtlini or Parryi, it would be held in high esteem. Admitting that the red variety has neither the grace of L. pomponium nor the intense sealing-wax red of L. chalcedonicum, it is always the earliest to flower, and if the odour thereof offends fastidious nostrils (my own olfactory nerves are so gross as to suffer it gladly), plant the bulbs out beside woodland paths, where it will thrive in the grass as comfortably as any Daffodil.

THE PROLONGED DROUGHT HAS TOLD SEVERELY ON PRIMULA BULLEYANA.
The illustration shows it in full glory.

Another vehement note is struck by Papaver umbrosum, a brilliant annual which sows itself in odd corners, and sends up a shower of blood red cups with black blotches at the base of the petals. As it does not exceed 18ins. or 2ft. in height, it is not so dangerous to feebler neighbours as the Oriental Poppy, which sows itself with equal freedom and is apt to smother herbs of greater rarity.

The prolonged drought which has told severely on many species of Primula especially P. Bulleyana and its hybrids, has proved that the beautiful P. helodoxa is a thoroughly trustworthy border plant. Its tiers of canary-coloured blossom form a charming contrast with the sky-blue spires of Meconopsis latifolia, which spring self-sown in a nook half shaded from the sun.

Several species of Roscoea, an attractive genus of the Ginger family, are now in cultivation in this country, but are not so often grown as they deserve to be. They take kindly to our climate in deep, free soil, and require special attention only in one respect, namely, marking with permanent labels to protect them from disturbance in weeding or hoeing. It is so late in the season before they show above ground that without this precaution they are pretty sure to be destroyed. R. purpurea, which has been longest in this country, does not flower till mid-July, and not a sign of growth was visible above ground till the first week of June. The sulphur-coloured R. cautlioides and the rose-coloured R. Hameana poked up their noses only ten days ago, and are now in full bloom; whereas R. capitata, which withholds its rich purple blooms till August, has not yet peeped through the soil. All these species resemble Salvia in the mechanism for securing cross-fertilisation, which is effected by levers projecting from the bases of the stamens. When these are pressed by an insect on its passage to the rectary, the anthers descend and discharge their pollen. Mimulus radicans, a native of New Zealand, forms an ideal carpet for flat places in the rock garden. Covering the ground closely with little spoon-shaped, bronzy leaves, which lie flat on the soil, it does not interfere, as that weed does with the health or very existence of other herbs, and at this season it is closely starred with miniature monkey-flowers of violet, yellow and white. I recommend it confidently to those who have not tried it.

A mass of Lithospermum graminifolium, 4ft. across, is now sheeted with azure blossom. This plant abhors lime as much as any Rhododendron. Not so Alyssum spinosum, whereof a dome 6ft. in diameter, rises within a few yards of the Gromwell. It shows in the twilight like a snowdrift.

Nearly all the Rhododendrons, except late flowering hybrids, are past. Of the new Chinese species, R. villosum is still well furnished with rich purple crimson blossoms, in shape and setting like those of the Sikkimese R. triflorum. Mr. Millais, in his great work on the genus, dismisses R. villosum as bearing flowers "more striking than beautiful." Probably there is variety in the colouring of individual plants; certainly those we have here display a gorgeous hue, especially when viewed against the sun. R. crassum, with fragrant blooms resembling R. Edgworthi, and R. pholidotum with those like R. glaucum, will be in flower in a few days. The showiest shrub at present is Olearia nitida, earliest of the genus to flower except O. stellulata or Gunniana (I never have learnt the difference between these). One bush of O. nitida, standing in a woodland glade is 7ft. high and mantled with innumerable snowy flowers. The shining foliage of this species is very gratifying in winter, but at present it is completely hidden by the blossom.

Having mentioned the difficulty of discriminating between certain species, I shall be grateful to any reader who will explain the point of difference between Incarvillea Delavayi and I. brevipes. They have got hopelessly mixed here. I can detect no distinguishing features in the blossom, both grow about the same height, but some have leaves pinnate along their whole length, others have two pair of pinnæ and a lateral, nearly orbicular terminal lobe.

A SUMMER PICTURE

Example of the right proportioning and due selection of the materials of a pergola, and also of its happy planting. The Wistaria is followed in due season by the Rambler Rose. Where, in winter, it has an effect of light and openness, there is, in summer, the shade and dark enclosure given by Vitis Coignetiæ. At the foot of the pillars blooms the pink Hydrangea, that tones so well with the group of Lavender bushes in the foreground.

HARDY GERANIUMS FOR THE WILD GARDEN, WOODLAND AND BORDER—II

KNUTH'S Section XII, Sylvatica, contains the best of the Geraniums for border cultivation. With the exception of a few that are rather too lavish with their seedlings, they are as well behaved and reliable as a plant need be. It is something in these days of little personal leisure and expensive hired labour, to have a plant that will stay where you put it, and be generous with its flowers annually without special attention for a score of years. At the head of this list should be placed G. platypetalum, of Fischer and Meyer. It seems to have but one fault, that it tries to hurry all its flowers out during so short a period that it can only keep up the supply for a week or ten days. What a glorious mass of purple they are on this scorching June morning, larger and deeper in colour than those of any other blue member of the family!

It is very nearly allied to G. ibericum and has been reckoned as a variety of it, but is distinct enough as a garden plant to deserve a name of its own. It does not spread so rapidly as G. ibericum, but forms large, shapely clumps and throws up all its flower stems well in the centre of the circle of big leaves, instead of here and there and at all possible angles among the leafy shoots as G. ibericum is inclined to do. The intensity of colouring is produced by the rich crimson of the branching veins that spread over most of the surface of its blue-purple petals.

The veins of Crane's-bill flowers will repay careful examination. In fact, most flowers are worth looking at closely, and in different lights and finally under a magnifying glass. There is much more in flowers than just the colour effect of a mass in the border, or cut to arrange so that they tone in with the wall paper and hangings of one's drawing-room or the candle shades of a dinner table.

In forms of G. pratense all the veins are transparent, clear as glass, and in some Eastern forms look as if full of red sap and, when held up to the light, glow like the red bottles of a chemist's window. G. sanguineum has only the three principal veins translucent, its var. lancastriense all the main veins, but the branches from them are opaque. In G. platypetalum the pigment is so rich a crimson in the veins that it is only with a strong light through them that they glow in transparency, and then it is that of an amethyst or rich stained glass, and the smaller veins are opaque enough to give the effect of the leading of an old window with plenty of lead in it.

G. pratense is about the worst sinner in this section for sowing itself too freely, but where there is a good range of varieties among their parents, one regrets every unflowered babe that has to find its way into the weed basket, feeling there goes a possible award of merit winner. A good many of mine find a home in my damp meadow and from early June till mid-July give as much pleasure as any flower grouping of the season. I believe the deepest coloured forms are of Eastern origin, perhaps Himalayan; they are veined or flushed with crimson on a rich blue ground, so that they are not far short of G. platypetalum's purple effect.

GERANIUM ACONITIFOLIUM.
Flowers white with black veins.

The pure white forms mostly have fine round flowers, and the yellow green foliage of an albino. They are out and away the best thing in white Geraniums, very good as a yard wide clump in the border, or bearing no more than three flowering stems, as those that have to battle with our coarse meadow grass have achieved as their best effort. There is a curious form that has long been known as var. striatum, and for the most part bears flowers striped blue and white. Not infrequently, like the true York and Lancaster Rose, it bears flowers either all blue or pure white, and now and then one that "has ta'en of both," and is equally divided half blue and half white.

Rosy pink forms are very charming, and seem to be improving in the depth of rose colour year by year as new seedlings flower. Then again there are endless shades of pale blue, from that of skim-milk to soft, opalescent tints, with a touch of lilac about them. These look especially well in half shade and among some of the pink and red species. There are two distinct shades of purple with double flowers and a good white one, and all are useful as they flower later than the single ones.

G. sylvaticum seeds freely too, and it is wise to select good forms from the babes and send the smaller flowered types to the meadows. An alpine meadow will generally supply a plant or two with extra large flowers and perhaps a telling white eye to the reddish-purple flower. The bluer the purple and the larger the white eye, the more effective is G. sylvaticum in the garden, but any form looks well among the meadow grasses. There is a fine pure white strain that comes true from seed and also a soft pink one, and both of these have a neater habit of growth than the typical form and are charming planted among Ferns.

G. angulatum is reckoned by Knuth as a form of this last species, but is distinct from a garden point of view; a much more robust plant, growing a foot higher than any sylvaticum and producing larger flowers of a soft salmon pink, beautifully veined with rose colour. It is not often seen in gardens, but is a very fine plant when well grown.

G. aconitifolium, often called G. rivale, is a dainty miniature counterpart of the white form of sylvaticum, but can be recognised at once by the delicate tracing of black veins on its white petals. Being a high alpine species—I brought it from the side of the road on the top of the Mont Cenis—it prefers a cool half shaded position in this dry soil and is not generous as to increase, so it is better protected from pushing neighbours.

E. A. BOWLES.

FORTHCOMING EVENTS.

June 28.—Horticultural Show at Derby (four days).

June 29.—National Rose Society's Great Summer Show, to be held in the Botanic Gardens, Regent's Park.

July 2.—Windsor, Eton and District Rose and Horticultural Society's Annual Exhibition, to be held on the slopes of Windsor Castle.

July 4.—Nottingham and Notts Chrysanthemum Society's Meeting

July 5.—Royal Horticultural Society's Holland House Show, to be held at Kensington High Street (three days)

CORRESPONDENCE

A NOVEL WAY OF GROWING ASPARAGUS.

IT would have been well I think, if the notes on the above subject by Mr. Joseph Jacob in the issue of THE GARDEN of the 11th instant, had been subjected to Mr. Joseph Mallender for revision before being published (than whom no one is better qualified to speak on the question of the culture of vegetables, including the growth of Asparagus). Your correspondent has made the subject of forming Asparagus beds a peg to hang many subjects upon, including the eating of a shirt and possibly its buttons as well; also of soaps, some famous beauty uses no other, and so on. Mr. Jacob naïvely affirms that he is neither a vegetable grower nor a chef; surely such a disclaimer was not necessary. Yet on the strength of a good tale told by one of the old actors, he proceeds to describe to your readers how to form an Asparagus bed on what he is pleased to term the Mallender system. In the first place I am sure Mr. Mallender would not claim the credit of being the first gardener to utilise vegetable refuse as a manure to mix with soil in making Asparagus beds; the practice in gardens is as old as Adam. He would also be the last to recommend the use, in preparing the bed, of "everything; in fact, hard wooded waste, such as the prunings of fruit trees." It is stated that the essential to start with is a bit of ground, the character of the soil not specially counting. All we have to do is to dig a pit, say 9ft. long, 4ft. wide and 2½ft. deep. He makes no provision for the drainage of such a pit, which surely should be the first essential. Fancy anyone being foolish enough to dig a pit of this depth in clay soil, and to fill the same with such foul matter without any previous preparation or provision for its drainage. The whole would soon be a mass of putridity, in which nothing could live. No one enjoys the writing of Mr. Jacob in THE GARDEN more than I do when his notes are confined to subjects he is familiar with, and on the growth of which he is an authority.—PRACTICAL.

I READ the Rev. J. Jacob's article anent this with particular interest, for I purpose planting an Asparagus bed in the new garden of Chaffinch Cottage (now being carved out bit by bit from the meadow). I have known Mr. Mallender's plan to be used with *great* success in making a sunk Vegetable Marrow bed many years ago. We prepare the ground for our Runner Beans in similar fashion, taking out a trench and burying the garden refuse therein. But, to return to my muttons. I rather think the new plan I am going to try will out-Mallender Mr. Mallender's. It is as follows: I propose making an enclosed fowl run, 50ft. by 12ft., from now till next spring, turning over the turf a bit at a time, to let the fowls clear the ground of wire worms and grubs, and benefit the soil with their droppings dug in. Along this strip I intend making two 4ft. wide beds, with a 4ft. space between them for "winter stuff." These two beds are to form a background to the "Little Formal Garden" screening off the kitchen plots. I know of few prettier things in a garden from July to November than an Asparagus bed. Criticism of this proposed experiment invited by ANNE AMATEUR.

A MENACE TO VICTORIA PLUMS.

WOULD you kindly assist me, through your valuable paper, in the following matter? I have a fourteen-year-old Victoria Plum tree which has taken the silver-leaf disease. Can you give the reason for this? It has had the best of culture with plenty of lime. I have noticed when going about quite a number of trees affected around here (Leicester). I consider we are losing the finest general Plum we have, which would be a great loss to the country. Is there not some means of preventing this? I have taken off every limb that has shown any sign of the disease and shall destroy the whole tree if necessary. Does the disease emanate from the roots? or can I regraft it with some other variety? If not, what do you suggest as the next best Plum to take its place? Some recommend the Pond's Seedling, but it does not come up to the Victoria; or possibly the Pershore Plum (Egg Plum) will serve. What do your numerous readers think? If there is a cure will some one kindly suggest it so that we can save this valuable Plum.—E. T. ARMSTRONG.

[Silver-leaf disease is spreading rapidly and is very disastrous in its effects. By the terms of the Silver-leaf Order issued by the Ministry of Agriculture growers must grub up and burn all dead Plum trees and cut away and burn all dead wood from Plum trees before April 1 of each year under penalty for neglect. Our correspondent need not yet go to the length of destroying the tree. Where one or two branches only are affected these should be removed and burnt. We believe the Ministry of Agriculture holds that no cure is at present known. It has, however, been recorded in these pages how an Apple tree was completely cured by scattering crystals of sulphate of iron in a trench among the roots of the tree. We welcome expressions of opinion from readers. It will be instructive to learn from the experience of others what immune Plums there are, if any, to take the place of the disappearing Victorias.—ED.]

YELLOW CHINESE RHODODENDRONS AND RHODODENDRON OCCIDENTALIS.

YOU express a hope that a really good yellow Rhododendron may be found in China. R. lacteum (Forrest) is generally believed to be a good canary yellow Rhododendron with size and quality. It must not be confused with R. lacteum (Franchet), introduced by Abbé Delavay, 1889, now known as R. fictolacteum. This has white bells with a crimson blotch. Mr. Forrest's plant is well distributed, and may be expected to flower before very long. It seems quite hardy. As you say, R. occidentalis is a valuable plant, and largely so because of its season of flowering; but there are some hybrids from it, raised at Knaphill, with large pink or orange and white trusses that are much more effective plants and flower at the same time. They are apt to lose their flower-buds in a very hard winter in an exposed position, but I have often seen them very good in Sussex and in Cornwall. Many years later Messrs. Koster also distributed some occidentalis hybrids, but they were an earlier flowering set and deeper in colour. They were sent out in the year of the International Show.—INSIGNIS.

SCENTLESS MUSK.

IN reply to your note on Scentless Musk (see page 272) I would like to say I potted up some Musk plants from a border at the end of last summer and they remained in an old greenhouse on the top shelf during the winter. About the middle of April they broke into leaf and at the end of May were in full bloom, bearing larger flowers than the plants that remained in the border. The scent is delightful and reminds me of the old cottage windows at Felsted, Essex, about 1862-64, where I was at school. The boys patronised the cottagers in those days and liked the gingerbeer they sold; also the window flowers, generally consisting of two Musk plants trained to light, white wooden ladders with steps made of white cotton. The companion plants in the same window were generally two old-fashioned Pelargoniums, called then butterfly species; also a scented leaf sort and perhaps a Verbena or two. The window was rarely opened; neither was it necessary, as the door leading from the little front garden was always open and the gingerbeer on view. To-day on the top shelf of my sunny old greenhouse I have just much the same old favourites thriving, and I think under similar conditions; the greenhouse, though not heated, being warm and perhaps rather stuffy, the top windows being "out of order" and having ceased to open. Perhaps the warm air and the roots being confined in pots help to produce the perfume, and perhaps the sight of old companions, too, who shall say? Anyway, there is the old Musk perfume. I do not remember Musk being grown out of doors in those days, and if I saw it at all it was in a pot lying on its side near the greenhouse door at my home.—H. S. BARTLEET, *Shooter's Hill, Kent.*

ONCOCYCLUS AND REGELIO-CYCLUS IRISES.

IN his interesting communication on Iris Sari (see page 296) Mr. W. R. Dykes lets in a cultural sidelight or two that should not be missed by anyone desirous of understanding the above named and growing them with greater success. His frank confession to having dug up the "plants quite early in June" and his failure "at first, to realise that this was the reason why the rhizomes did not remain plump and firm till October" is of high importance. Such a proceeding was, as Mr. Dykes found to his cost, impracticable and wrong. yet, by presently leading him aright, endowed him also with cultural pros and cons that constitute a veritable backbone in all such work and which otherwise could not have been forthcoming. I confess to owing much to experiments myself, and the fund of information these place at one's disposal is not lightly to be esteemed. It is not enough at all times to know just what to do: it is the knowledge of what will ensue by pursuing an opposite course that is of even greater importance. In deciding to pin his faith in the future on the taking-up method, Mr. Dykes has acted most wisely, no covering of whatever sort meaning so much to the matured rhizomes as this complete out-of-ground rest. Opposition to it precluded one of the keenest cultivators these Irises have known—the late Rev. H. Ewbank of Ryde—from seeing a tithe of the flowers he might have seen had he acted otherwise. No trouble was too great so far as their cultivation was concerned, though nothing would persuade him to lift and rest them out of the ground. In the series of special frames he had, at no small cost, built for their accommodation the plants were covered with lights and so rested for weeks on end. But it is not the same thing. At the time, too, Mr. Ewbank was expecting a limey or calcareous soil to prove the all-in-all for these plants. It is, however, but an item in the case, albeit an important one, and definite seasons of growth and rest mean much more to these plants. But the owner of the old Parsonage Garden at Ryde was no experimentalist, as all my endeavours to get him to lift and dry his clumps of Iris tingitana after growing them for years without flowering proved. What is true of the Irises above named is equally true of the more amiably disposed Regelio-Cyclus

forms, for which, however, the out-of-ground rest is just as essential if we are to succeed worthily with these indisputably beautiful subjects. It was not in pure opposition to Mr. Hoog's (J. C. Van Tubergen) dictum to "lift in July and replant in October" that a dozen or more years ago I experimented with these also by early covering the bed—it was against a south wall—with lights in the hope of converting some of them into becoming decent flowering plants minus the trouble of annual lifting, &c. The experiment not only failed utterly, the plants were appreciably weakened too. In other words, there is no equivalent for the annual lifting and resting. It is the only way by which a complete cessation of root activity can be brought about, hence is essential to their success.—E. H. JENKINS.

[We were delighted to receive this contribution from the pen of one whose writings have interested and instructed thousands for long years past. Mr. Jenkins writes from a sick bed, to which he has been confined for ten weeks, and those who are acquainted with the seriousness of his illness will rejoice with us when we say that in a personal letter he himself speaks very hopefully, and expresses his intention of getting well so quickly that he will "be kicked out and sent home." Those who know Mr. Jenkins intimately will recognise evidence of the indomitable spirit he possesses.—ED.]

PROBABLE ORIGIN OF THE PINK ARTHUR BROWN.

MR. HERBERT laid stress on the point that the Pink sold at the present time under the name of A. Brown is *not* one of the originators of Progress. Mr. Brown must be under the impression that it is or he would not have said so, or he may even have both the 'A. Brown' Pinks in stock. I do not know; but Mr. Herbert is quite emphatic on the point that the Pink *he* lists under that name is *not* the one, and, as the description of his Pink tallies with that also sold by Mr. Douglas, I can but accept the greater weight of evidence. I have a great respect for Mr. Brown's knowledge of Dianthus pedigree, and it seems unsatisfactory to leave the matter where it is, but then Mr. Herbert is the man most concerned and his dictum must, I fear, be accepted.—YOUR SPECIAL CORRESPONDENT.

MR. BROWN evidently loses sight of the fact that the Pink flowers earlier than the Carnation (see page 297). I question if there were any Carnations in bloom in the late Mr. Dodwell's garden when the Pinks were in flower. If Mr. Brown can raise as fine a laced Pink as his namesake by crossing the Border Carnation with the Pink, I should be one of the first to congratulate him on his productions. He might raise some with slight lacing, but not with the perfect lacing so dear to the old florists. All the Pinks I have are my own raising and from the same source, with not a particle of Carnation blood in them, and I have some very fine laced varieties. I have had some experience in raising Pinks and I know that if one gets a new break, someone will be sure to say, "There must be Carnation blood in them." In all plant life there are dormant colours, which are only waiting to be produced, and the more we do in trying to produce them, so much greater will be our surprise in wondering where the colour comes from. If anyone takes up any class of plants with the idea of improving it, he will find plenty of scope for his energies, and not only that, he will derive a great amount of pleasure from it, remembering if we do our part, nature never neglects to assist us.—C. H. HERBERT, *Acocks Green, Birmingham.*

A USEFUL ANNUAL.

IT is a good many years since I last had Phacelia campanalaria in the garden. I suppose the hot, dry time which we have now had for a good many weeks has suited it down to the ground, for I can never remember it flourishing in the way it has done this year. P. campanularia is a very useful annual with rather fleshy looking grey-green roughish foliage, which somehow suggests to me that of the wild form of Primula sinensis. The flowers, borne on loose racemes, are pure blue; in shape they take after the style of a bell flower and have a pure white mark on the inner surface of the bottom of each dip of the monopetalous corolla. The plant grows from 6ins. to 10ins. in height, and beginning to bloom in June, continues in flower for a considerable period. It is, too, an excellent subject for using in small vases for indoor decoration partly because the flowers continue to open one after another with hardly any change in colour for ever so long, and partly because the blue remains true blue under artificial light.—JOSEPH JACOB.

A LARGE WHITE AZALEA.

I THINK it might interest you to see the enclosed photograph of a white Azalea which grows in our garden here and which was taken

A WELL GROWN SPECIMEN OF RHODODENDRON LEDIFOLIUM.

by Miss A. J. Reid of Cove on May 28, 1921. The Azalea measures 15ft. across, 5ft. high, 40ft. round (in circumference). The blooms sent are not quite at their best as they are going over now, the weather being very warm. Surely a shrub like this is unusual, especially in Scotland and so near the sea?—S. MCCLURE, *Cove, Dumbarton.*

[The plant in question is Rhododendron (Azalea) ledifolium; obviously a good specimen of this well known plant.—ED.]

"FIRE" IN TULIPS.

ONE important source of infection of Tulips with "fire," "C. M. G." (page 256) omits to mention, viz., bulbs already diseased, such as are not infrequently offered for sale, in spite of all the precautions that reputable salesmen exercise to secure clean stocks for their customers. Healthy foliage left to dry off is no menace to the succeeding crops; foliage suffering from "fire" is, especially when the outbreak is severe, and it is better to remove and burn it long before the healthy foliage begins to go off. But even foliage of healthy plants is rendered more liable to attack by exposure to the elements, and all that can be done by protection from cold winds and spring frosts is worth doing, and delaying the planting of the bulbs until the second week in November is also wise, for then the foliage is more likely to escape damage.—F. J. C.

TWO DISTINCT MOSSY SAXIFRAGES.

NOWADAYS we have an abundance of these useful plants, but I think that one can always find room for distinct forms. Two have pleased me well this season, and neither of them are frequently seen. The first is S. Purple Mantle; this is distinguished by the rose pink shade of its flowers, quite distinct from all the other pinks and reds we already possess. The other is S. moschata, a beautiful form of the extremely variable S. muscoides. The growth and method of bearing the flowers are of the usual type, stems 2ins. to 3ins. high with several flowers on each; these are white, but the beauty lies in the distinctly crinkled edge to the petals, which distinguishes it from all others I know. In appearance it is the nearest to S. Burseriana of all the mossies. A striking variety, probably a seedling from this, is S. Glasnevin White. Here again the flowers are white and crinkled, but not quite so much, but are much larger, being at least 1in. across. It appears to be a good grower, and a good clump will be a striking sight.—E. B. ANDERSON, *Cheshire.*

A Pretty Hardy Primula.—Growing in the gardens at Framingham Manor, Norfolk, is a very choice hybrid of the newer type of hardy Primulas. The variety in question has flowers of a charming colour best described perhaps as a brick red with a touch of terra-cotta. It is wonderfully profuse in blooming, the flower-stems run up to a height almost equal to the old P. japonica and succeed one period after another to seven or eight whorls. It is much more refined and graceful in appearance than P. japonica, while the flower-stems are profusely covered with "meal." The main blooming period is from early May for seven or eight weeks, and it gives occasional blooms throughout the summer and autumn. It was growing equally as well under the slight shade of trees as in the open. Mr. J. A. Christie, who raised it and called it Mabula, thinks a good deal of it and has worked up several large patches of it.

An Attractive Alpine.—The Rock Beauty, as Petrocallis pyrenaica is popularly called, is one of the alpine gems which appeal to the desire of the lover of such flowers, but too frequently baffle his utmost efforts to induce them to flower with the freedom of their native homes, or refuse *in toto* to accommodate themselves to cultural conditions and leave us with only a sad memory of their loss. It would, we fear, be a dismal record were we to be able to arrive at an approximation to the number of plants of Petrocallis pyrenaica which had been in cultivation in this country within the last half century but had vanished without giving their owners the merest modicum of the pleasure they had expected. The truth is that it resents the climatic and soil conditions which generally fall to its lot and either refuses to flower with any satisfactory profusion or gives up the ghost leaving us forlorn. It is a delight to see a plant of the Rock Beauty in a happy condition with its close-set tufts covered with their lilac, starry, gem-like flowers. How to secure this is easy to suggest, but no one can well guarantee that it will be achieved. The moraine appears to be the most likely place, and that a dry one with plenty of calcareous material intermixed with the stones. We have seen it in the happiest conditions such as this and have admired

it, but the climate of my own district is too moist for it and it has never flowered with the freedom we could desire.

Handsome Waterside Plants.—The placing in contrast side by side of two plants of the same family, one a giant and the other a tiny, is a very interesting feature in a garden, and these two species of Gunnera (G. scabra, a giant, and G. magellanica, a miniature) afford a good opportunity for this contrast grouping. G. scabra luxuriates close to the edge of a stream or pond and throws up immense dark Rhubarb-like leaves and stems that afford a magnificent backing for other waterside plants. By its side the wee G. magellanica, reaching but 4ins. in height, while the other tops 6ft. or 7ft., is entirely lost sight of until attention is directed to it. It is a native of Chili, with deep green foliage, a counterpart of its tropical-looking brother—except in size—and appreciates similar conditions.

The Flowering of Fremontia californica.—This is one of the best of the many good things California has given us. In favourable districts it will attain a height of 10ft. or 12ft., but specimens of half that stature may be relied upon to flower profusely. There is to-day (June 15) in our garden a stripling of 4ft. 6ins. that is laden with its large golden cup-shaped blossoms which are not rendered the less attractive by the fact that the leaves are comparatively few, small and of rather a dusty green. Though F. californica needs a light, warm soil, it is impatient of drought, especially just before and during the flowering season. Specimens planted against a south wall will often prove unsatisfactory on that account, and in places where such protection seems desirable a west wall would probably be more successful. But we are inclined to think that F. californica is a good deal hardier than is generally supposed. In the first place it is a deciduous shrub, and the specimen alluded to, growing against a west wall, has survived some severe tests without the slightest injury, and that without any protection whatsoever. For example, it came through the very trying spring of 1917 without any ill results, and the destructive frosts of last December, which killed to the ground a fine Dendromecon rigidum growing within a few feet of it, left it without the slightest effect. Fremontia californica appears to need but little attention by way of pruning, but in a light soil a mulching of old cow-manure and leaf-mould in spring is beneficial.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Rhododendrons and Azaleas on completion of their flowering should be relieved of all dead blossoms and seedpods. This operation not only adds considerably to the general appearance of the plants, but, what is more important, it enables the whole of the plants' energies to be directed into the new growths. Unshapely bushes may be cut back, and if necessary to encourage the growths of any of the bushes, they should be given a good soaking of water and then mulched liberally with partly decayed leaf-soil to keep the roots cool and moist.

Dahlias.—Where the old stools are too crowded with new growths, thinning should be done and adequate staking support given to those retained. Hollyhocks, Gladioli and Liliums also require supporting in good time.

The Kitchen Garden.

Swedes and Turnips.—A second sowing of the former may be made during the next few days on cool and moderately rich ground. Another breadth of Turnip, too, on a spare cool border may be sown. If the weather is hot and dry the drills for each of the vegetables should be well watered previous to sowing the seed, and on very hot soils a sprinkling of short lawn grass strewn over the bed is beneficial, as it keeps the surface cool and enables the young plants to grow away more quickly and also assists in warding off fly. Should the latter be very troublesome, a bag which has been dipped in paraffin oil drawn lightly over the drills will be found an excellent check. This is easily applicable where large breadths have to be dealt with, as several bags or pieces of canvas may be fastened together to a rod, and in this way a considerable area of ground is quickly covered.

The Hardy Fruit Garden.

Strawberries.—Where supplies of pot Strawberries are required early, it is a good plan to secure the first batch of runners from plants put out solely for the purpose of producing them. In this way the runners may be layered as soon as sufficiently large and receive proper treatment, deriving at the same time the whole of the sustenance from the parent plant. In making a bed to produce runners for the following season's pot work, the plants when put out in August may be planted just as thickly again as required for fruiting; and after the crop of runners has been secured grub up every other plant, so that those left may fully develop for fruiting the second season. Layering may commence at any time now for early work, as it is essential to get them into their fruiting pots in good time so that the crowns may thoroughly develop and ripen by the end of the season.

Plants Under Glass.

Malmaisons that have finished flowering can be removed to a sheltered position outside to rest awhile before being taken in hand for layering. Those selected for keeping another season should be kept as cool and restful as possible, and if placed outside should be protected from all heavy rains. Any potting on may be done as soon as convenient, and the plants should then be placed under glass. Water should be sparingly given after potting, spraying frequently with soft water during hot days and shading to enable the plants to re-establish themselves under favourable conditions. Among the many varieties Princess of Wales and The Old Blush are still two of the most useful, but the best variety for general purposes and perpetual flowering is Duchess of Westminster, surely one of the finest varieties ever introduced.

Calceolaria Clibranii has done wonderful service in the flowering house, but must now be cut over and rested by placing in cool, shady frames where heavy rains may be warded off. Water sparingly for several weeks, when potting-on or shaking out must be attended to as required. Sow seeds now in pans of light soil in a cold frame to obtain a young batch of plants for another season.

Fruit Under Glass.

Peaches and Nectarines.—Trees in early houses, whether grown in pots, tubs or borders, should, as soon as all fruits have been gathered, receive a thorough good syringing with an insecticide if red spider or thrips be present, afterwards syringing frequently with clear water to keep the trees clean and vigorous. See that the roots also are well supplied with water, and where a heavy crop of fruit has been carried, add a liberal supply of farmyard manure to the clear water. Any pruning necessary may now be done, and the trees in pots or tubs should be placed outside.

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FOR NORTHERN GARDENS.

The Kitchen Gardens.

French Beans.—A late sowing may now be made on ground that has been cleared of Broccoli, and should provide nice fresh pods for the latter part of the season. Thin early crops where they have been thickly sown, and mulch between the rows. On hot, gravelly soils copious waterings should be given, otherwise the pods are inclined to be tough and stringy.

Cabbage and Cauliflower.—Further batches of these may be got out now and should prove a useful succession to those planted out three weeks ago. Sutton's Universal Cauliflower is finely adapted for planting from successional sowings; it is much more easily grown than some sorts and remains longer in a usable condition, while it seems to suffer less from extreme drought.

Carrots.—Early thinning should be attended to, and so encourage robust growth. Stir the soil frequently between the rows with the Dutch hoe.

Peas.—Stake maincrop marrowfats, which should be growing freely, and mulch varieties that are now showing pod, as this materially helps in swelling the pods, as well as prolonging the cropping powers of the plants. It is scarcely wise to risk another sowing in our district, but should one be made, an early variety must be used.

Beet.—Where extra quantities of Beetroot are in demand, a late sowing may be made now, which should give good results. If one of the quick growing Turnip-rooted sorts are sown they develop quickly and produce fine well coloured roots and are generally found free from the coarseness so common in earlier lots.

The Hardy Fruit Garden.

Gooseberries are carrying heavy crops this season, Early Yellow being particularly fine, while the later Winham's Industry also promises well. Owing to the lengthy spell of hot weather experienced here, red spider may appear, so a sharp look-out should be kept for this pest, and if noticed a good syringing with Quassia extract should be given. Bushes often suffer for a lengthy period through attacks of red spider, while the swelling and ripening of the present crop is severely checked.

Watering Young Fruit Trees.—Apple and Pear trees which were planted late in the spring suffer readily from drought, so where at all possible they should be well attended to in the way of watering and mulching. Should the tips of the young growths become infested with aphis, syringe for a period in the evenings.

Plum Trees are carrying very poor crops in this area, which may be accounted for by the severe weather conditions of the previous season. In many instances the foliage was entirely denuded, while the continuous cold and wet during the autumn did not allow the wood to become properly ripened. Wall trees, however, promise much better crops.

Plants Under Glass.

Tree Carnations.—Later struck batches of these should be potted on without delay, growing them as cool as possible. Attend to stopping, so that nice bushy specimens may be ensured. Shade slightly during the hottest part of the day.

Bush Chrysanthemums are now growing freely, so if not already staked they ought to be attended to at once. Spread out the stakes so that the growths may all receive the full benefit of light and air. As the season advances, waterings of weak soot water may be given. Syringe occasionally to keep insect pests in check.

The Flower Garden.

Sweet Williams will now be ready for transplanting from the seed bed into nursery lines in the reserve garden. Plant singly in rows about 9ins. apart and 6ins. between the plants in the rows. The many fine shades at the disposal of the grower nowadays are invaluable for the formation of colour schemes, Sutton's Pink Beauty, Giant White and Sutton's Scarlet being outstanding sorts, while the old Auricula-eyed is always a favourite. No garden should be without this delightful biennial.

Violets.—Where these are grown in quantity the young plants will require attention in the way of watering and keeping the foliage clear of red spider. Water thoroughly in the evening; while nothing tends more to keep red spider in check than frequent sprayings with a weak solution of soot water. Runners should be pinched off, and every encouragement given to provide strong plants for autumn flowering.

Border Carnations.—The soil must be kept well stirred among Border Carnations, applying some artificial or liquid manure during showery weather. Attend to staking, using neat stakes for the purpose. The coil stake is very popular and suitable; otherwise Bamboo tips may be used.

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THE GARDEN

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NOTES OF THE WEEK

[July 2, 1921.

ON the day the great Rose Show at Regents Park is in progress this issue will be in the hands of many readers. Because of the prolonged drought it is doubtful if the blooms will be up to their usual high standard. Even so, we may expect there will be some which are likely to provoke disgust with the visitors' own poorer specimens. This has been a season full of troubles for the Rose-grower, who has had his work heavily increased by the prevalence of green fly and other pests which have been so much in evidence this year.

Holland House Again.—After a lapse of some years the Holland House Show will be resumed this year at Kensington on July 5, 6 and 7. Although never on such a large scale as the premier fixture of the Royal Horticultural Society, this Show is among the most important in the horticultural world. A leading nurseryman with whom we were in conversation recently, was greatly puzzled to know what to exhibit at Kensington. The prolonged drought has undoubtedly provided problems to all exhibitors, but the visiting public does not generally realise this, though they are quick enough to complain over the puzzles presented in their own gardens. Unless we are mistaken, when the time comes, those who go to Holland House will see that our nurserymen have triumphed once more. But then the Britisher's happiness when overcoming obstacles is equalled only by his joy in grumbling when they have been overcome!

The Clay Cup.—At the Royal Horticultural Society's Show on June 21 last the Clay Cup was awarded to Mr. Walter Easlea for his new H.T. Rose Prince of Wales, as being the most fragrant new variety. It appears to be a very showy garden Rose, but the foliage unfortunately suggests a susceptibility to mildew. Prince of Wales is a fairly large, rather loosely made bloom of rosy-cerise colour.

Removing Suckers From Fruit Trees. Suckers from fruit trees are more numerous than usual owing no doubt to the mild season which has been favourable for their growth. In many cases this year we have noticed in gardens that these unnecessary and superfluous growths have been allowed to thrive undisturbed. To allow these suckers or basal roots to grow unchecked is detrimental to the health of the tree and is a serious menace to future fruitfulness. Plum trees are, perhaps, the worst offenders for sending up suckers, bush trees excepted. Suckers should be carefully removed. The best plan is to remove the soil around the sucker and to sever it from the roots from whence it springs. Suckers, if removed carefully from Gooseberry and Currant bushes with roots attached, will in a year or so develop into good plants. For this purpose the suckers are best removed in the autumn or early winter.

The Pyramidal Rockfoil.—The variety pyramidalis of Saxifraga Cotyledon is one of the gems in the rock garden in flower at the present time. It is admittedly among the finest and largest of the alpine Rockfoils in cultivation. Of robust habit, it bears sprays 2ft. to 4ft. in length, each carrying innumerable white flowers speckled crimson. The position in which this variety is happiest is in fissures between rocks, which permit full development of the arching sprays. It has additional merit of attractiveness in the alpine house, where it should be grown in pans.

THE PYRAMIDAL ROCKFOIL GROWING IN A FISSURE BETWEEN ROCKS

The Sea Lavender.—One of the most striking flowers in the markets at the moment is Statice Suworowi, which is being sold largely, both as pot plant and cut flower. It is a hardy annual and quite easy to grow, so that it becomes a matter for regret that while the market man has fully realised its merits gardeners have not done so. In the border the pretty lilac colour is very uncommon, and the flowers last a very long time when cut. The value of the Statices for associating with Helichrysums and other everlastings for winter bouquets is more appreciated across the Channel than in this country.

A Beautiful Weed.—Travellers by the Midland Railway to London cannot fail to have noted the graceful beauty of several masses of Epilobium angustifolium on the embankment just before St. Pancras Station is reached. This Willow Herb, or Rose Bay, is quite one of the handsomest of our native plants, and were it not so aggressive every gardener would grow it, but once introduced into a flower border it becomes a difficult matter to keep it within reasonable bounds. When we consider that it is by no means a common weed this prolificacy is surprising, but none the less regrettable. There must be large quantities growing somewhere near London to account for its being sold by so many street hawkers during the past week or so. Although not altogether a desirable border plant, the Epilobium is most charming in the woodland and wild garden. Principally in the West of England, various railway embankments are now brilliant with masses of red Valerian, which finds sufficient nourishment in most unpromising places; and not far from Plymouth there used to be, and no doubt still continues, a goodly stretch of the white variety growing on an almost perpendicular rocky cutting. Unlike the Willow Herb, the Valerians are particularly good border plants, and while they do not acquire more than their allotted space, are easily increased

Trials at Wisley.—The Royal Horticultural Society will carry out trials of autumn-sown Cabbages and Onions in their gardens at Wisley during the coming season. Seeds for trial should reach the Director, Royal Horticultural Society's Gardens, Wisley Ripley, Surrey (from whom the necessary entry forms may be obtained) on or before July 1

SUN LOVERS IN THE MOUNTON HOUSE GARDENS

THE unusual persistency of the sunshine, which this year has made summer of our spring, has given emphasis and prominence to the sun lovers among the denizens of our gardens. Subjects which prefer partial shade and much moisture have too often had a hang-dog and dejected look when separated from pond or hose. But the Rock Roses, whether they be of the Cistus or of the Helianthemum family, have never been happier, or afforded more joy to their human friends, to whom it has been brought home, that even with our climate, the sun garden, if its possibilities and characteristics are understood and provided for, may be made into a little world of extraordinary brilliancy, ample variety, and strong individuality. And if this year has been and continues to be especially favourable to it, yet it need be no failure or blot in seasons when the normal amount of rain and cloud prevail. I am inclined to think that the sun garden in persistent wet is less depressing than the water garden when long drought has dried up the stream and parched the ground. Rock Roses were happy and attractive enough last year when skies were resolutely overcast, but now I see about me many a despairing Primula and withering Astilbe which had been set hopefully in places that were intended to keep damp, but are now playing at being little Saharas. Where partial shade is present and water is persistent to the extent of still allowing thirsty plants to drink their fill, it is delicious to linger and lie during the long hours ruled by the blazing sun and arid wind. But how equally delicious it is to go forth early, when the shadows are still long and the air still cool and see the myriads of ephemeral blooms that have just begun their short life under the best and brightest conditions. The chosen position, on the open sunny bank, or against the south wall, essential most years for the survival of the plant that produces them, is not more than it can bear this year—offers indeed the conditions that enable it to reach its highest natural development. The winter was as favourable for this class as the spring, and I noticed that the late April frosts, which killed the new shoots and expanding foliage, not only of half hardy exotics such as Fuchsias and Hydrangeas, but even of such robust natives as Ivy, did not sear a single Cistus leaf or cause to drop a single Cistus bud. And the bloom buds were already there; April, indeed, had not seen its last day before a blossom of Cistus purpureus expanded its three-inch width. Yet it is the least hardy member of the family among the many grown here, just as the equally desirable Cistus Loreti is the hardiest. The winter of 1917, if it produced endless empty spaces in border and shrubbery, at least had the merit of providing a very complete and definitive frost test. Whatever lived through it may well be pronounced a permanence, so far as cold is concerned, in the situation it was then in.

The four bushes of Cistus Loreti seen in the illustration were then where they are now, against a building indeed, but where the east wind could reach them to a considerable extent. Yet the east wind, on more than one occasion during that winter, was about as inimical to life, animal or vegetable, as it knows how to make itself, and it has not got to be in much of a temper to show its qualities. Anyhow it—straight off and at the first attempt—ended the young lives of every Cistus purpureus that I had left out of doors, although I had set them with backing against its blast. Quite otherwise with Cistus Loreti. It withstood every attack and emerged into the eventual spring season with scarce a brown leaf, quite beating in that respect its big and reputedly sturdy cousin, Cistus ladaniferus, which, wherever placed, did not come through the fray without some loss of limb, although never with loss of life. The same can be said of such other members of the family as creticus and florentinus which, though more or less maimed and needing cutting back, had, in almost every case, vigour for recovery. Nor were the yellow algarvensis and formosus without survivors and there has been nothing to stop growth and development since then. Whether, on low ground, in heavy soil and enclosed site, Cistuses suffer during a very wet and frostless winter such as we last had, I am not sure. With me, in full exposure to air and sun, and the drainage that is natural to banky, fairly porous ground overlaying limestone rock, even a heavy and sustained dose of the autumn and winter damps that the West Country is apt to provide, is not detrimental, does not produce sappy, leafy, non-flowering growths. Only in one instance, where a plant of Cistus Loreti had been unwisely set in an airless shady corner, did debility set in and removal to the rubbish heap ensue. Everywhere else the Cistuses have been and are still blooming profusely and to the tips of their ample last year's growths. Of any variety of at all doubtful hardiness cuttings are always taken in the autumn—a practice which fortunately did not wholly cease even in the war years, when propagation was apt to be set down as one of the non-essentials which might be for a time foregone. Thus the defunct group of Cistus purpureus could be replaced in the May of 1917 with new plants, diminutive indeed, but so ready to take advantage of all opportunity for development that some of them, in a border and half a dozen feet from a wall, are now corpulent bushes 5ft. 6ins. high, decked out daily from dawn to the coming of evening with a covering of purple spotted pink muslin. They are not of those members of the family that hasten to shed their beauty while the sun is high, for even on the hottest of recent days I have found a fair sprinkling of blooms holding on well into the twilight. Free of attack from disease or pest, this variety is one of the most beautiful and easily grown of flowering shrubs, its facile striking quality and rapid growth minimising the defect of its occasional winter failure. Of the other pinks, although the tone is rather hot, yet there is a fine glow about the hybrid called Sunset. The white section is more numerous, with much variety in size of both bush and bloom. Ladaniferus I have 10ft. high against a wall, but the bushes of Loreti that are illustrated, scarce measure a yard. They, however, are not trained against the wall, but grow free. No doubt if the former course were adopted their stature might in time be doubled. Where height is desired, much can be got, even out of a reputedly dwarf member of a family, by judicious cutting away at the base and continued tying in of the top growth. For instance, a nurseryman's catalogue, such as Gauntlett's, will give you 1ft. as the height of Cistus algarvensis. But I have a specimen against a wall which has reached 7ft. and is quite willing to go up higher if invited. It is a most delicately beautiful little thing, small in twig, leaf and flower, but delightful in form and colouring, a dot of crimson brown at the base of each small butter-coloured petal, the flowers expanding freely from thin ruddy buds set on the slenderest of wiry stems. It is about the latest of the family to bloom. Even this year, when purpureus was not the only one to have an April flower, and May has been the month of fullest bloom, mid-June is reached before algarvensis bursts its first bud.

The Cistus, though it does so well with us, is essentially the Rock Rose of Southern Europe, but the yellow Helianthemum is a native of our upland hedge banks and open downlands, especially on the chalk and limestone. I presume that a red and a pink variety grow wild somewhere, and that, on being introduced to our gardens, they, by accident and by artifice, have bred a most numerous and varied family. Even

CISTUS LORETI AGAINST A TEA HOUSE FACING SOUTH-EAST.

CARPENTARIAS AGAINST A SOUTH-WEST WALL.

self-sown colonies can often be selected individuals desirable from the shape, habit and colouring of their blooms, and, as they strike readily, the multiplication of a single plant is easy. But scientific fertilisation is now applied to this increasingly popular family with rich and varied results and, in association with Cistuses, dwarfly furnishing the front line and the intervals, they are admirable, their prostrate semi-creeping habit especially suiting them to the dry wall and stony bank.

The English sun garden must not confine itself to Europe for its population. The Cape and California supply it with many desirable colonists. The former gives us bulbs such as the Watsonias, and fleshy rooted subjects such as Sparaxis pulcherrima which do well if their idiosyncracies are respected and catered for. Both have lived and bloomed for a decade at Mounton, the Sparaxis not only increasing by the development of individual plants, but by self-set seed. As it was recently illustrated and described in THE GARDEN, we will at once pass to Californian subjects. Among them is a large class of sun-loving Poppyworts, such as the Argemones and Romneyas. Allied to these, but of shrubby habit, is Dendromecon rigidum. It does not entirely relish our winter colds and damps. It grows rapidly, sending out, from the rootstock or from the previous year's wood, great straight, succulent new stems, all of which need a long season of hot sun to bake them to a resisting hardness. It is not, therefore, well to encourage position. The smaller and less juicy growth, which is given by a hot, dry, airy situation and poor, rocky, quick draining ground, is the secret of longevity. Most who have grown it may very likely have to record, as I have, more deaths than survivals. But I have the latter, and aged six years or more, the elder specimen being about 7ft. high, but sparse in growth, not from any cutting back either by hand or frost, but from the struggle for existence in a barren land. It is rooted on a rocky sun-struck bank, with a minimum of soil, which frees it entirely from all dangerous plethora and aldermanic habit, and gives it the wiry strength and persistence of the hardy mountaineer. Yet there is food enough for flower production. The recent mild winters have spared even the bud-holding tips of the latest autumn growths, and the flowering season has begun in early spring and continued unchecked to the last days of summer, the well shaped, substantial, golden cups standing erect and numerous in unending succession. Another Californian shrub, easier to grow, and equally admirable, is Carpentaria californica, of which the habit is well seen in the illustration. Its lanceolate evergreen leaves bear the winter well. The seven plants that furnish much of the 6ft. retaining wall between the bowling green and the pergola garden at Mounton have been there these nine years and have never failed to flower. The illustration shows part of a couple of them as they were in July, 1920. That was a year of growth rather than of blossom. Overtopping the wall, there are, in this June, flowering shoots at the height of 7ft., and, from base to top, the flowering shoots predominate. I hear of this shrub suffering badly from leaf spot in Devon and Cornwall. That is probably because the position given is too sheltered. It has a love for sun and air, and these should be given to the fullest extent compatible with protection against frosty blast. The exposure at Mounton is south-west, the situation high, fully open to the sky and to the rays of the sun from 11 a.m. to sunset. The air plays about and even, at times, roughly buffets the shrubs, but it comes from the milder quarters and the wither of north and east is escaped. Thus set, Carpentaria californica is among the most desirable and effective of our sun-lovers—at all seasons a showy, healthy, well furnished foliage plant, and during its fairly long flowering season a real gem. The six petalled white flowers average 2½ins across and surround a great tuft of golden stamens. Stems, rising straight and stiff 8ins. to 10ins. from the leaves, bear a single first flower at the apex, but throw buds, the upper pair eventually overtopping the early apex bloom.

Such are a few of the very numerous sun-lovers that greet me every springtide and remain into the summer, but which, this year, have developed an exuberant prosperity, a care-free gaiety, which are in striking contrast to the economic and mental condition of men, who are yet able to get great solace therefrom. H. AVRAY TIPPING.

MORE NOTES ON GARDEN PESTS

Watch for the Enemies of Your Plants and Do Not Let Them Entrench Themselves

MANY a budding amateur who has bubbled over with enthusiasm when first the beauty of flowers and the delights of gathering home-grown fruits have been realised has allowed himself to become disheartened because of the mischief worked by some troublesome and destructive garden pest. To such, and indeed to all who take up gardening either as a profession or a hobby, I would point out that a much better plan than worrying is to make a study of garden pests and diseases as well as of the plants, and it will soon be found that by learning to identify an insect or fungus, when to expect and where to watch for its appearance, and what weapons or materials to use for its destruction, an added and extremely fascinating interest is aroused in the pursuit of gardening rather than a source of distressing anxiety. The worry and disappointment comes when, through lack of knowledge and attention, the enemy gets securely entrenched and works irreparable mischief before an attempt is made to grapple with him.

In considering how best I might deal with garden pests in these columns, I decided that the method that will be most useful to readers is to deal from time to time with a few kinds of insects or fungoid diseases that are likely to put in an appearance at or about the time of publication.

Were I to attempt any form of classification it would mean that I should be dealing with subjects in season and out of season, and then, maybe, when the right time comes, the article concerning a particular pest would not be just at hand.

I cannot hope to write upon everything just at the right moment to meet the needs of every reader, but the editorial enquiry bureau is always open to receive requests for information on any particular trouble, and since prompt action is an ingredient in every formula regarding treatment of garden pests, readers should make a point of "writing to the Editor about it."

Chrysanthemum Rust.—Growers of Chrysanthemums must be on the look out for this troublesome fungus, especially as the long sustained drought may very probably be followed by a spell of sultry, thundery weather, when atmospheric conditions would be favourable to the rapid development of the disease. The scientific name of Chrysanthemum leaf rust is Puccinia hieracii. Spores of the fungus are blown or carried about by the wind, or by persons, birds or animals that brush against host plants. They may rest for a time on a leaf or stem until a warm, moist atmosphere enables them to develop, when the first sign of their presence will be a brownish spot like a particle of snuff on the leaf. Of course, there will probably be many of these spots, each of which will rapidly spread over all

will then very soon die. Particular note should be made of the fact that the spores can develop on the leaves of such weeds as Groundsel, Thistle and a good many other of our common weeds, and many a batch of Chrysanthemums has been ruined from spores conveyed from surrounding diseased weeds. The first preventive measure is obviously to keep weeds well under. Another point is, it is too late to try to cure the disease when the leaves are seen to be smothered with the fungus, for as soon as the spore becomes active it penetrates the surface of the leaf and does its damage among the cells. Fortunately a simple and harmless preparation can be made which, if sprayed over the plants at intervals during summer, will kill any spores that may alight of the foliage before they can gain a foothold. A quarter of a pound of sulphide of potassium (liver of sulphur) dissolved in ten gallons of water makes an efficient fungicide for the purpose. If the mixture is to be kept it should be placed in stone jars with the corks tied down, as it loses its strength rapidly if not kept airtight. Of course, for a small number of plants, an ounce dissolved in two and a half gallons may be mixed and used immediately.

Tomato Leaf Spot.—Often just as Tomato plants begin to make rapid growth, brownish yellow spots appear on the leaves. Very frequently this is mistaken as an indication that more water is required, but that is exactly what will aggravate the trouble which will really be due to an attack of a disease called Cladosporium fulvum. The same mixture of sulphide of potassium as recommended for Chrysanthemum leaf spot will stop Cladosporium if attacked in its earliest stages; but if the Tomatoes are growing under glass it will be necessary to pin up newspapers to cover the woodwork before spraying, because sulphide of potassium discolours white-lead paint. The use of dry flowers of sulphur as a powder spray is strongly to be recommended at this season of the year. Roses, fruit bushes, indoor Peaches, and a good many other subjects both under glass and in the open are prone to attacks of mildew or other fungoid diseases that may be kept at arm's length by a timely dusting with sulphur.

Celery Fly.—Already I have seen Celery plants that have fallen victims to the leaf-mining maggot, which is hatched from an egg deposited in the flesh ribs of the leaves by the Celery fly (Tephritis onopordinus). The great thing is to cover the foliage with something that will make the leaves nauseous to the fly when she comes along to lay her eggs. A tar-water spray is the best preventive. Half a pound of ordinary coal tar boiled in a gallon of water and then diluted to make fifty gallons, will make a safe but effective spray, which may also be used to keep the similar pest of Marguerites and Cinerarias at a safe distance.

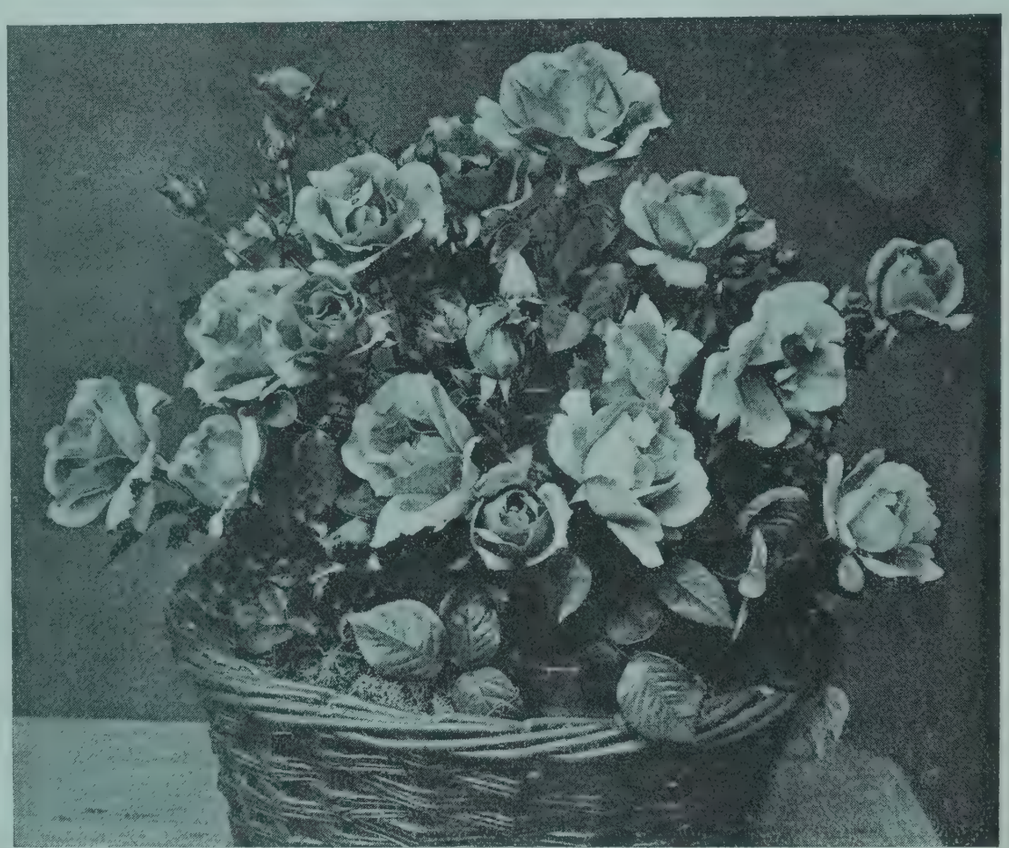
Watch Your Potatoes.—Very soon it will be necessary to commence the battle with the enemies of Potatoes. July is generally considered the month for the ordinary Potato disease named Phytophthora infestans, but a great deal depends upon weather conditions. Even before it is necessary to commence using copper sulphate sprays, it may be very necessary to use an insecticide. The drought has facilitated rapid increase in the aphis family, and there are one or two varieties of green and red fly that attack the young tips and leaves of Potato haulm. In addition to the weakening effect the aphis have upon the stamina of the plant, there is considerable danger that the outer covering of the leaves and stems will become punctured sufficiently to allow some of the Bordeaux mixture used to check Phytophthora to get right into the cellular structure of the haulm. When that happens the plant is poisoned. On several occasions during the war-time food production campaign I had my attention drawn to cases where spraying with Bordeaux mixture was all right, but the crops. Wherever I had opportunity to investigate I found that the trouble either arose through badly balanced mixtures or to the fact that aphis had previously done much damage to the foliage. It is therefore of great importance that we should free Potatoes from the hosts of aphides before we have to begin to use copper sulphate. It may appear to be making a lot of tedious work to go over a big plot of Potatoes, first with an insecticide to kill the fly and again with Bordeaux mixture to check the Phytophthora, but bear in mind the dry weather has retarded development of the Potato crops, early varieties are yielding very small supplies and it is incumbent upon every grower to do his utmost to help the maincrops, because a bad Potato harvest will add seriously to the troubles of what at best will be a trying winter.

A. J. MACSELF.

CUT FLOWERS AT SHOWS

Some Helpful Suggestions for their Better Arrangement

THE time of flower shows is again with us; the falling off caused by the war being made good surprisingly soon and well. The committees of most of our country shows offer in all the principal cut-flower classes extremely generous and valuable prizes to be competed for. I notice that at the forthcoming Floral Fête to be held at Wolverhampton on July 13 next that upwards of £400 are offered in prizes for cut flowers alone, including £255 for cut Roses. The classes for bouquets, stands of flowers, sprays and buttonholes are generally well filled with excellent exhibits, quite as good, I think, as is usually found in London.



AN EFFECTIVE METHOD OF EXHIBITING ROSES.

Competition in the floral decorations of dinner tables was a happy innovation introduced some years ago. It has now become one of the most popular features of our flower shows. It has opened out a field of work which has appealed especially to ladies and of which they have not been slow to take advantage, and demonstrates also how well adapted and qualified they soon became to carry out this form of artistic garden work by the unqualified success which has attended their

The mistake most often made in the decoration of dinner tables with flowers is the overcrowding of the same with too many stands and too many flowers in a stand. In carrying out this work it should be remembered that a dinner—and especially a public one—above all things is a sociable institution, and therefore to introduce any decoration which bars the enjoyment of open sight or free speech across the table must be avoided.

As regards Roses and the most effective way of arranging them for exhibition purposes opinions always have differed, and I have no doubt always will do. But to my mind there is no more attractive and popular way to exhibit Roses than in suitable baskets, small or large as the case may be. A basket gives scope for the artist's genius in arrangement that no other receptacle is capable of. Bowls of Roses, especially when filled with blooms of one variety in an artistic manner, are loved by all.

It is in the arrangement of hardy herbaceous and other hardy flowers exhibited at our flower shows that I think there is the most room for improvement. Classes for these are usually

feet of space for the exhibitor to fill as he chooses, and is able to, with certain reservations. With few rare exceptions exhibitors in the past have failed to do justice to themselves, the flowers, or to the space at their disposal. Stipulations are usually made that each vase in a group shall consist of one kind or one variety only.

Each single flower (and its stem) in a bunch or vase should be of the best obtainable and with a portion of its own foliage attached, and each flower should be so arranged that its individual charm and beauty is given a chance to assert itself. How seldom do we find this consideration given effect to?

I have had considerable experience and special opportunities for giving effect to the artistic arrangement of cut flowers both at the Royal Gardens and at Chatsworth. My greatest difficulty (as it has been of many others) has usually been in getting flowers to remain in the position one places them in when fixed in water in even with the help of wire or other artificial contrivances.

With the object of overcoming this difficulty I adopted the plan of using dabs of plastic clay (packing the same in paper to avoid discolouring the vase) and placing them inside the flower receptacles, suiting the size of the dabs of clay to the size of the receptacle and of the flowers. It will be found that flowers with their stems inserted in damp clay will remain fresh in the position assigned to them for a considerable time. Water can be added to the clay if desired and the stems, if too short, can be lengthened by the addition of wire or short stakes, the stalks all the time remaining in water. The dabs of clay are easily concealed by the foliage of the stems of the flowers used, or by the addition of the foliage of Ferns or Lycopodium. OWEN THOMAS, V.M.H.

BUDDING AND LAYERING ROSES

The season for budding and layering Roses having arrived, these notes should be helpful. They deal with various methods and show how success may be obtained.

ROSE budding used to be an important item in the routine of a gardener s life and work. Then, as now, the most successful practitioner had no fixed and definite dates for his various operations. He left rigid calendarical gardening to others, for he realised full well that weather plays an important part in gardening. Successes and failures, particularly the latter, soon teach that it is the season and weather and not the calendar that must be studied if the best results are to attend our efforts. The time for outdoor Rose budding is when the sap runs freely, so that the bark may be easily separated from the stem, and when the selected bud may be cleanly detached in its entirety. These two must coincide. It does not matter how beautifully clean the bark may be lifted on the stock if a perfect bud may not be taken to fit on it. Then the weather immediately following the budding has to be considered. Should it be unusually hot and dry, the bud is more than likely to shrivel before a union can be formed with the stock. On the other hand, cold and wet weather is equally fatal in that under these conditions the bud lies in danger of decomposition. So, as in most affairs, it is the happy mean in the weather that is needed for successful budding. These combinations of circumstances are generally found during July.

As to which method of budding is favoured, it does not seem to matter whether it is the T-shaped incision, the inverted T, the square shield or the circular so long as, like the laying of a foundation stone, it is done "truly and well"; though the T-shaped incision has the sanction of fairly long and general usage. With this method it is easiest to make a perfect union between scion and stock.

The selection of the bud repays for consideration It is the bud from a flowering shoot that is most satisfactory, and as will be seen from the illustration on this page, the best bud is found towards the basal end of such a shoot, for it is just there that they are the most perfect for the purpose. Lower on the shoot the buds are too dormant and too hard, while on the upper portion they are soft and not sufficiently developed. In the same illustration will be seen the bud prepared for insertion, and in this respect care should be taken to retain the little piece of leaf or base, as the embryo on the inside is variously termed, is the vital part, and must be treated with the greatest respect. Any injury to this part results in failure. While care is needed to ensure as perfect fitting as may be, and the tie sufficiently tight, but not so as to cause constriction, it is the skilled budder, who can do the work quickly, who succeeds in getting the highest percentage of "takes." On a dull day speed in working is not so essential, but during dry weather the buds and the exposed portion of the stocks both dry quickly, a condition not to be desired.

The Briar Stock is Best.—No longer can the gardener go out and get good stout briars from the highways and byways. During the past we have reaped, but we did not sow, and now are paying the inevitable penalty. This scarcity of Briars is widespread, and in the endeavour to overcome it, various stocks, other than Rosa canina, have been tried with more or less success. The stock difficulty is more serious with standards. The Manetti stock answers very well for bush Roses and is readily propagated by cuttings. But for standards none equals our English Briar. Latterly Rosa rugosa has been used a great deal. From the garden point of view the chief objection to it is its slenderness and also that the head often becomes top heavy. Both of these faults could doubtless be removed if the nurseryman would grow the stocks a year longer before budding them, but I suppose this is asking too much!

More recently a Japanese form of the Siberian Rosa laxa has met with favour from the growers. A great point is that it is in a suitable condition for budding much earlier in the season than any other, so that budding is often commenced as early as May—the buds are taken from pot plants—which gives the nurseryman a much longer season than otherwise. This early budding nearly always results in the buds bursting into growth the same season, while one prefers the bud to remain dormant until the following spring. Though if the laxa stock results in sufficient growth of the bud to be properly ripened before winter sets in, well and good, otherwise serious losses will occur.

Layering Roses.—Many prefer dwarf Roses to be on their own roots and insert cuttings later in the year. But there are certain varieties which do not root readily. With these the difficulty can nearly always be overcome by layering, a method which has a deal to recommend it for the garden where only a limited number of fresh plants are required. The layering is carried out much in the same way as with Carnations, except that to get the required branch in position a stouter peg is required. For both budding and layering the knife should always be kept as sharp as possible because so much depends on the cuts being cleanly made. The best time for layering is about the last half of this month, though, as with other shrubs, it can be successfully performed later. A. CECIL BARTLETT.

THE BEST BUD IS FOUND TOWARDS THE

AND IS TRANSFERRED TO THE BRIAR

MESSAGES FROM A WIRELESS AVIARY

Whether or no birds in the garden are of economic value the following charming tribute, from one who evidently loves them and also his garden, needs no apology for its publication

THERE are times when you wonder whether your garden is a garden or an aviary, or both, and you find it hard to say for what purpose mainly your patch has been enclosed and planted—to provide your table with fruit and vegetables, or to provide the birds with *bonnes bouches* and nesting-places. It depends, I suppose, on the humour you are in. For myself, I think I regard my garden chiefly *as* a garden on those now rapidly recurring occasions when I am asked to pay my rates, for the birds, so far, are not rated, though there is no saying how soon they may be; or at the end of a delightful but back-breaking day of potato-planting or rose-pruning, when the cultural side of things obscures what might be called the avifaunal. On the other hand, given a sunny Sunday morning in spring (of all the days in the year, an Easter morning perhaps for choice); or, for that matter, the morning of any festal weekday, when hoe and rake hang idle on the wall because your "help," bent on making what he calls "a day of it," has left you for a space to solitude and pure enjoyment; or, it may be, one of those lingering evenings in May or June when the sun, like the village children, dawdles unconscionably in getting to bed—it is in such reposeful hours that the garden ceases to be an end in itself and becomes a mere accessory—the feeding-ground, playground, flirting-ground, concert-platform and what not for innumerable birds.

Those who possess an aviary, of whatever kind, do not require to be told that a spacious floor-area, important though it is, is not everything. For the well-being and happiness of the birds, the cubic space between the floor and the superincumbent roof is of at least equal importance. Persons who keep exotic birds, which, if lost, could not easily be replaced, must, of course, have their aviaries roofed over with glass or wirework; but, for my part, the sky for a roof suits me very well, because in my case the loss of a bird more or less is no great matter. I put no constraint on my birds. If one goes, another comes. If they are happy in the quarters I provide, I am content; but if any of them prefer to go elsewhere and sing for other ears than mine, I am also content, and wish them good luck in fresh fields. As far as my observation goes, the population of my aviary remains at a tolerably even figure, inevitable losses being balanced, I fancy, by corresponding gains. I recognise, of course, the manifold convenience of a gridiron wire roof to the aviary (wire is preferable to glass, because it allows of better ventilation), but, on the other hand, there is much to be said for the sky as a roof. For one thing, I like to remember that in the air and sky over my garden (which, like the area beneath, are, of course, mine in fee-simple) I possess a practically illimitable estate—an ever-expanding block of air and ether stretching away to Sirius and even to the Milky Way, and, as it radiates into space, increasing at a geometrical rate which I have not the mathematics to calculate. I like to regard myself in this way as a proprietor on a large scale, though I turn to practical use only a small part, comparatively speaking, of this enormous wedge of space, that, namely, which, estimated roughly, extends, perhaps, to a height of half a mile or so over my garden. These higher elevations are given over for the most part to my various "aerial" species, the most important of which in my eyes is unquestionably the swift. "One swallow does not make a summer," is a frequently cited but, to my thinking, a foolishly obvious piece of proverbial wisdom. Of course it does not, nor one swift either. If I may speak for myself, it takes a multitude of swifts to make *my* summer. I like to have the air thick with

BIRD, BATH AND BORDER.

them. When I see them racing and chasing one after another in the upper region of my aviary and uttering their rasping but delightsome shrieks, like a troop of cacophonous boys at tig in a meadow, then, and not before, I realise that summer has come, when at last it is possible to doff one's cardigan and enjoy life. I need hardly say that it is beyond the resources of my aviary to provide nesting-places for my swifts, though they are very regular breeders; but fortunately I am able, for this purpose, to borrow the church, which is close at hand and serves admirably the end in view. The roof of our old church, though quite weather-tight, is constructed of rough stone slabs, which do not, however, overlap so closely but the swifts find apertures through which they dash without abating an iota of their marvellous speed There are, of course, other distinguished "aerials" besides the swift—the swallow and the house-martin, for instance, which fix their "procreant cradles" numerously under the eaves, and over the casements, and inside the chimney-stacks of the village houses, the architecture of which seems to have been designed in the first instance with an eye specially to swallows. Occasionally also fleets of lapwings sail overhead in the higher reaches of the aviary, with that wavering, sinuous, indeterminate movement which characterises these birds in their collective excursions and their migrations from place to place. More frequent than the flights of lapwings are the morning and evening processions of rooks (frequently accompanied by a contingent of jackdaws), my garden happening to lie in the bee-line between their pasturing-ground in the neighbouring mead and their rookery in an elm wood a quarter of a mile further on. As for that embodiment of light and air, the skylark, how gladly would I welcome him to my wedge of sky! But he never visits me.

Indispensable, however, as "aerials" are to my aviary, the more interesting and companionable birds are those which, for lack of a better term, I call my "terrestrial" birds, in which important division I include all those which, for purposes of their own, more or less frequent my lawn; though, if I knew the Latin for "twig," I should possibly form another division ("vimineals," let us say) to include tits, warblers and other birds that spend their lives preferably in hanging, upside down, from the extreme tips of branches. As these, however, also light occasionally on the lawn, I have decided, for simplicity, to lump them all as the "singing birds" of my aviary, though I quite recognise the absurdity of the term "singing" as applied to the utterances of birds. At the same time it cannot be denied that on a mellow evening in April, when all the birds are wrought up to concert form, each uttering his own particular ditty, regardless of his neighbours and indifferent to rhythm, pitch or harmony, there does result something analogous to certain forms of human music, a students' chorus, for example, or a football smoke-concert.

Those who like to have birds about them know how specially interesting they are in winter during those terrible spells of frost that turn the earth to iron, when the tameness of the birds, thrown by stress of weather on human protection, becomes almost "shocking to see." Their dependence on human help at such times induces a more intimate fellowship between them and you than is possible at other seasons. But though it is comforting to be able to play providence to the starving creatures in their times of difficulty, the most pleasant bird-season, to my thinking, is egg-time; just as fledging-time, which follows hard upon, is of all seasons the most unhappy, for then the cats (in my aviary, two) are sleeplessly busy taking tithe of the fledglings and so adjusting the balance of Nature. But at egg-time all is right as right can be—the mother on her nest, secure from disaster, and the cock-bird topmast high and at his noisiest. It was a poet, I think, whose heart leaped up when he "beheld a rainbow

in the sky." But there is no saying what the human heart, high-strung or humdrum, will or will not leap up at. My own stolid organ, for instance, would not flutter a beat the faster for the finest rainbow that ever spanned the sky. Yet it, too, has its emotions, such as they are. Poetic or prosaic, we all have our flutters, if not for a rainbow, then for a primrose by the river's brim, or for something else equally irrelevant. If anyone should conceivably think it worth his while to make my own pulse beat thirteen to the dozen, let him show me a hedge sparrow's nest with five blue-green eggs, and the thing is done, or, for that matter, any bird's nest with its complement of eggs—a thrush's, or a partridge's with its baker's dozen under a hedge, or a pheasant's, in a coppice, with as many, or more.

I have heard it said that every garden has the birds it deserves, which leads me to wonder what lack of desert on my part accounts for the absence of certain birds from my garden, the yellowhammer, for instance, a bird for which, and for whose song, and for whose devil-inscribed eggs I have had an affection from my youth up. I suppose it is the want of hedges and telegraph-wires, for, where these abound, within ten minutes of my garden gate, yellowhammers are as plentiful as sparrows. Chaffinches, pied wagtails, starlings, hedge-sparrows and wrens are with me more or less summer and winter. The missel-thrush visits me chiefly when the Yew and Cratægus pyracantha are in berry. A pair of robins I can always count on, though it is only in late autumn and winter I think that these birds are really as amiable and companionable as they are generally reputed to be. The flycatcher comes each summer and nests in my ivy—a bird with singularly winning ways, but voiceless, to my ear at least. Three species of tits—the great, the cole and the blue—are frequent but irregular visitors, though I can always count on a swarm of blue tits when the Jargonelles approach maturity. Song thrushes and blackbirds are nearly as plentiful as the gooseberries to which they are so partial. Green linnets nest in the Dorothy Perkins Rose, but I have only to sow any variety of Brassica to ensure a visit from these birds at any time. A pair of wrens haunt the garden at this moment and make it jubilant with trills. Goldfinches visit me off and on as it suits them. Last year a pair built two nests and reared two broods in quick succession high up in a Cotoneaster frigida, close to my bedroom window. Christopher spotted them in the act of building—a great day for both of us. Later on, in early autumn, you might have seen, on any morning, a party of six or seven goldfinches at breakfast on a giant Teasle, each seed-cone with its bird—members, no doubt, of the Cotoneaster broods. I suppose I must regard my house sparrows as birds and therefore as permanent residents of my aviary—disreputable little hoodlums, but not so bad, I think, as they are painted. Though they nibble the seed-leaves of beet, finding sugar in them, I suppose, they do not here meddle with crocuses, primroses and sweet peas, as they do in some places. My own worst count against the sparrow is the slovenly quality of its nest, a chaos of feathers, designed, apparently, less with a view to the comfortable upbringing of its young than to the effectual obstruction of water-pipes. Pariah as he is, the sparrow is not without his admirers. Old Thomas Tubbins, for instance, who sometimes helps with the rough digging, displays a more lively interest in these plebeians than in birds of a genteeler cast—more than in the wagtail, in which I find, myself, so much delight. Thomas, who is not so young as he once was, and who is therefore obliged to pause occasionally to recover his spade and, while he adjusts the dottle in his pipe, will watch the cock sparrows stealing grains of crushed maize from under the noses of two pampered bantams which have the run of the garden. Thefts of exceptional impudence are applauded with approving chuckles. Curiously enough their "downiness" is the passerine characteristic which specially engages Thomas's interest and admiration. "Well, *to* be sure," he will remark as he resumes his digging, "them —— sparrers do be the *downiest* cusses as I ever seen or heerd tell on!"

SOMERS.

GOD'S BEST BERRY

Izaak Walton said of the Strawberry: "Doubtless God could have made a better berry, but doubtless God never did." This fruit, to which Walton paid so handsome, yet so true, a compliment, has one bad fault—the plants grow even when neglected grossly. The production of perfect Strawberries, however, demands skill and thought. The foundation of success lies in propagating healthy stock from the best parents. The intention of this article is to show how the desired end can be achieved.

MY daily paper hints at potential death in the Strawberry bed. If this statement is true our race is doomed to early extinction, for either grown, begged, borrowed or stolen, we all eat Strawberries when kindly chance turns our way. Pray pity for the poor Laxton's! By producing new and better Strawberries they have been slowly, insidiously developing a poison pot of nearly endless capacity and open to universal access. The studied exploits in poisoning of the Borgias are as mere drops in the ocean compared with the parallel sins of the Laxton's. Still the tail of England wags, how strongly the recently taken census will tell us.

The Strawberry is a native plant of England and herein one can see a ray of light. When it was first grown in gardens accurate history does not record, but there is credible evidence that it was cultivated by the Bishop of Ely in his garden in Holborn, London, before the fifteenth century had run more than three parts of its course. It is improbable that the Strawberry of those days was equal to the modern varieties in many respects, but it would be palatable and justify Izaak Walton. It would, we may take it, spread from the Holborn garden widely in every direction to general popularity. Ignoring a few odd decades we may accept it as a fact that Strawberries have been grown and eaten by succeeding generations for 400 years, during which time the population has increased steadily. Still the tail of England wags. Let us, of this generation, keep the ball rolling by even greater increase and thus subject coming generations to the same dread risk and, as our transatlantic friends so pointedly put it—Do it now.

Strawberry propagation in a private garden, whether the area be big or little, should be regarded as a business of importance. It is in the nature of a casual matter with the field grower. If the runners root, well and good; if they fail, well, better luck next time. We will leave the latter to his gambling wheel of fortune and consider the subject from the point of view of the gardener who, as far as is humanly possible, turns the wheel himself.

Three fundamental points are: 1, the plant from which the necessary runners shall be taken; 2, the type of runner which shall be chosen; and 3, the manner in which it shall be rooted. As a general rule the private cultivator has entire control over each of these though, in some circumstances, he may be forced to proceed as convenience, not as judgment, directs. The points may most usefully be dealt with as set out.

It is accepted that one year old plants will, in normal conditions, produce the finest runners or plantlets, especially, perhaps, those which have proved their power of fruiting by giving blossoms, that stage. There have been unnumbered controversies to decide whether runners from a barren plant (*i.e.*, one which has never developed a flower truss), will be similarly barren, but the issue has never been authoritatively reached. If there were no risk the question could never have come up for discussion. There is a risk and it is not worth taking. Therefore, the decision must be in favour of the fruitful parent, with the supplemental one of choosing one year old plants, if possible. Should these be, for any uncontrolled reason, unavailable, the second choice must be from two year old plants, and the third, and final, choice from three year old plants.

Apropos the runners themselves. The strigs are prolific in the production of plantlets, and propagation may be, consequently, carried to an intense degree, but this is more than doubtfully wise. Healthy plants in a clean plantation will send forth so many strigs that the requisite number of youngsters will be provided by the first or second plantlet, or, in the event of necessity, both. Should a desire be felt to split hairs, and decide whether the first or second plantlet is the better, the best advice that one can give is for each grower to please himself, since, judging from the broad basis, there is no perceptible difference in the final results.

Now as to manner of layering, which is one of the simplest forms of propagation. The strigs carrying the runners extend in all directions from the parent plants and many of these will attach themselves securely to the soil so that the species may be perpetuated. This is a natural method of increase and the gardener adopts it as the best, but wisely carries it out under a definite system. He selects the best suitable plants and the most promising plantlets and runs the process as in a set of harness. Three modes of procedure are popular, easy, certain and all are based on the best plants, best runners principle.

The most common way, probably because it is the least trouble, and, incidentally, the worst, is to cleanse the alleys of weeds, attach the plantlets to the soil with small stones or pegs and await results. Undoubtedly better is to supplement the cleaning by surfacing with good mould, as this conduces to superior and quicker rooting. The chief disadvantage occurs when transplantation must be done in hot, dry weather. The soil falls from the roots in lifting and the plants may, consequently, sustain a check to progress. This may not be a substantial disability in general culture but those who aspire to achieve the finest results regard it with suspicion and strive to avoid it.

The second and third methods are very closely akin and may be treated of in association. The one is to plunge 3in. pots filled firmly with light compost in the soil, and the other is to substitute

pots; plantlets to the necessary number are attached to the soil in the pots or to the inverted turves, as the case may be, and water is given as imperative to prevent total dryness. Each is excellent. The roots come rapidly and numerously, they are retained within a circumscribed area and moving to pots or open quarters can be done with the ball of soil and roots intact. There can, then, be no cessation of advance. Turves are preferable to pots for one important reason. If the move to fruiting pots or rows cannot be carried out at the correct moment—that is to say, when the young roots are working freely round the ball—matting commences against the cool, porous, impenetrable walls, the roots become hard and wiry in texture and growth is arrested after transference. The slight, undesirable check has been inflicted. With turves this cannot occur. The roots may go beyond the limits specially provided, but, passing into soil, do not change their character and the plants do not cease to advance, even momentarily, after removal.

A final word or two of insistence on the necessity of instant work and the subject must be left. Early rooted runners are invariably the best ar giving, as they do, the grower power to proceed he wishes with them, bring supreme satisfactio Some gardeners have made big strides in the tas others have just started and many are waiting- for they know not what. To one and all it may b said: Proceed instantly, work rapidly an thoroughly to produce rooted plants read for their fruiting quarters at the earlies possible moment. The preparation of the site and the planting must be the themes of later story. W. H. LODGE.

NEW AND RARE PLANTS AT WESTMINSTER

A GREAT many novelties were placed before the Floral Committee of the Royal Horticultural Society on June 21, when twelve received awards of merit.

Delphinium Welshman.—A tall, handsome spike of large widely expanded single flowers of Reckitt's blue colour faintly touched with heliotrope on a few petals. Award of merit to Mr. W. E. Samuel.

D. Sunshine.—This stately variety is very similar to the former. The chief difference is that there is more heliotrope colour. Award of merit to Mr. W. E. Samuel.

DELPHINIUM PURPLE ROSETTE

D. Purple Rosette.—A quaintly charming, real double-flowered Delphinium. The spike is about 18ins. long, and it is densely studded with purple rosettes that measure 1½ins. across. Not only will this be a charming border flower, but the spikes will last longer than most when cut. Shown by Miss M. Stanner.

Campanula Fleur de Niege.—The largest of all the double white persiciflora varieties. We suspect that it should be sheltered from rough winds. Award of merit to Mr. G. W. Miller.

Streptocarpus Mauve Queen.—This is another novelty which met with a generous reception at the hands of the Floral Committee. The pot plant bore one gross, floppy bloom of the giant-flowered type, whose best point was the clear white throat We were not alone in preferring the bright rose-coloured variety shown by the same raiser. Award of merit to Messrs. R. and G. Cuthbert.

Lilium Mrs. R. O. Backhouse.—One of the many crosses between L. Martagon and L. Hansoni raised by the lady whose name it commemorates.

LILIUM MRS. R. O. BACKHOUSE.

In many ways it suggests a 5ft. high Martagon Lily with flowers not so reflexed as usual. The colouring is yellow with dull crimson spots nea the centre, and there is a faint, hazy suffusion o crimson all over the upper surface of the blooms Award of merit to Messrs. Wallace and Co.

L. Sutton Court.—Of the same parentage an very like the foregoing. The spots are large and continue nearer the tips of the flowers. Als shown by Messrs. Wallace and Co.

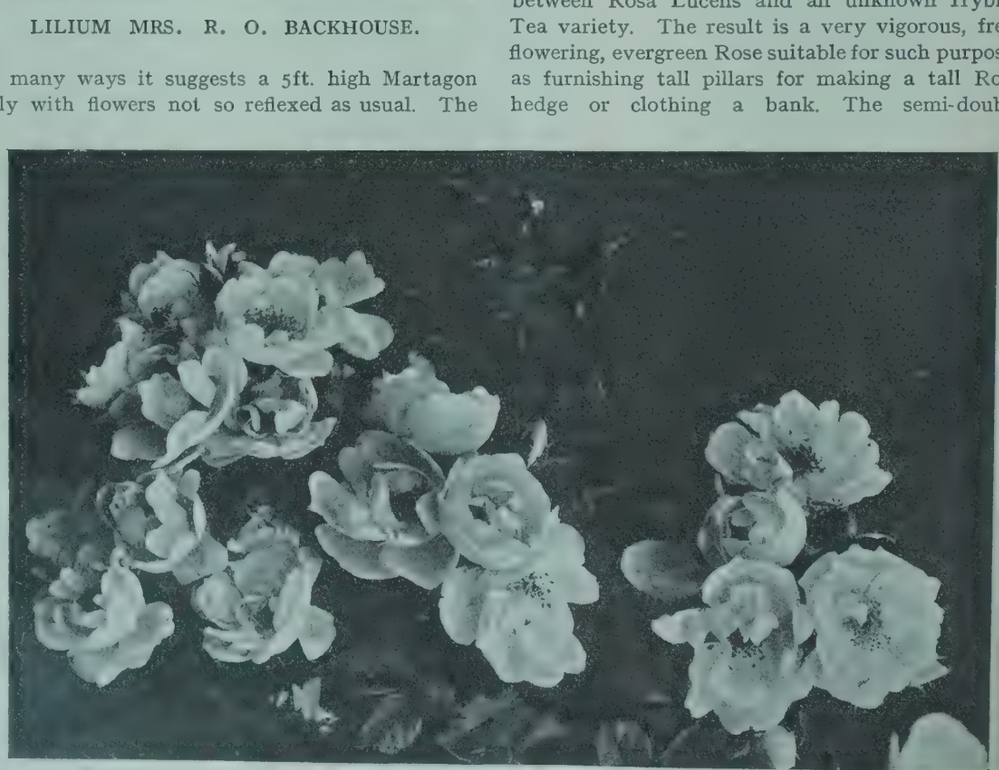
Phytolacca clavigera.—A somewhat coarse growing herbaceous plant whose chief interes lies in the unusually dense erect spikes of rosy pink flowers. Award of merit to Mr. Amos Perry

Dianthus Ella.—This is a very striking singl Pink. The broad, crimson lake zone is distinct well marked and in sharp contrast to the outer rim of pure white. It will be suitable for either the rock garden or as a hardy flower bordering Award of merit to Mr. S. Morris.

D. Old Rose.—Although this free-flowering Pink did not receive an award, it found many admirers. It is said to be a continuous bloomer, and plenty of flowers are produced on tallish slender stems. Shown by Mr. C. Elliott.

Rose Mrs. Hornby Lewis.—A large Hybrid Tea variety which in form suggests La France. The blooms are very fragrant, of pale primrose colour, brightened by light apricot in the heart of the Rose. Award of merit to Mr. E. J. Hicks.

Rose The Premier.—An exceedingly beautiful cluster Rose described by the exhibitor as a cross between Rosa Lucens and an unknown Hybrid Tea variety. The result is a very vigorous, free-flowering, evergreen Rose suitable for such purposes as furnishing tall pillars for making a tall Rose hedge or clothing a bank. The semi-double



owers, which are over 2ins. across, are a beautiful lush pink in bud and when first open. This olour fades to white with age. Award of merit o Messrs. G. Paul and Son.

Rhododendron discolor.—The chief interest this lies in its being "a new species from China." t is a moderate-sized rather loose truss of widely xpanded pale blush flowers inferior to many ybrids. Award of merit to Messrs. Wallace nd Co.

Philadelphus Girandole. — Apparently this "Syringa" becomes a medium-sized bush of moderately sized, slender, erect branches. The large, double white flowers are very effective. Award of merit to Sir William Lawrence.

P. Burfordiensis.—A large single-flowered variety said to be a sport from the double Virginale. It seems to be a very vigorous grower and, as with the former, it is particularly free-flowering. Award of merit to Sir William Lawrence.

CORRESPONDENCE

HYBRIDISATION: ITS PROS AND CONS.

THE points which have been raised on the particular form of a particular hybrid Flag Iris raise the whole question of man's putting his finger into the pie of Nature. Is it right and seemly for man to do this? I am on Mr. Dillistone's side and answer "Yes." I know many people delude themselves with the idea that "the old world charm" and that "the natural forms or species" are their ideals in gardening; but I have never met anyone who is a true whole-hogger in such aspirations when they are brought to book any more than I have found a believer in the literal sense of the Athanasian Creed. This is not saying that every result of man's interference is equally to be desired, only that there is nothing wrong in his doing it. Personally, I do not think I would like the hybrid Iris Clematis a quarter as much as I like the species pallida dalmatica, but I do like the little Iris Cantab, which we owe to man, every bit as much as Iris reticulata, which we have direct from Nature. It is all a question of choice or taste. Sometimes one likes Nature's work, sometimes man's, if, strictly speaking, the two may be separated. Anyhow my ideal is that the lion should lie down with lamb—the natural with the man made—and that both should be equally welcome in the gardens of the world. Our only logical position in the matter is to always keep on sitting on the fence.—JOSEPH JACOB.

ROSE AMERICAN BEAUTY.

THE Rose American Beauty is described in THE GARDEN of June 11, page 300, as "unknown in England." It is, however, well known and grown as McFerdinand Jamin, so useful under glass for its long stems when cut for bouquets or vases. As in the case of Belle Siebrecht, which the Americans dubbed Mrs. Grant, so in this case have they dropped the name of McFerdinand Jamin for American Beauty, as they discovered its especial usefulness for cut blooms under glass.—E. H. W.

SILVER-LEAF AND A SUGGESTED REMEDY.

LAST year one of my Peach trees was badly attacked by silver-leaf. To make quite sure it was silver-leaf I showed the tree to a traveller, who examined it twice and said it was silver-leaf. Then foliage was sent to several firms, including Messrs. Rivers, Sawbridgeworth, who said, "Yes, it is silver-leaf, and a bad case, too." The same reply came from the other firms. I had not any real doubt in my own mind, but wished to get authentic confirmation from outside sources. I then began in earnest to try to cure the tree. I now enclose a few leaves which I feel sure you will think are quite normal and free from silver-leaf. [The foliage appears to be quite free from silver-leaf. —ED.] If my efforts at a cure had signally failed, I should have uprooted the tree and burned the of York, was one of five Peaches and Nectarines bought and planted six years ago. They were splendid specimens. Two years after the planting, in spring each year, the leaves of this particular tree drooped and many fell off. As years passed the fall was greater, then faint signs of silver-leaf came. The soil in this district is deficient in lime. I had previously applied some, but now more was watered in; but the silver-leaf spread rapidly, and at this date last year half the leaves had fallen and the remainder had a miserable appearance, the fruits, too, being under-sized and poor, while in previous years they were excellent and won first prizes each time they were exhibited. I syringed freely on suitable occasions and observed the spread of the disease more and more after each syringing. I regard silver-leaf as a kind of consumption of the tree, and decided that the application of more lime was wrong: also, that a *very* moist atmosphere was, too. Last autumn I procured a good supply of fresh soot. A pailful of water and soot at a time was mixed to the consistency of mortar. The mixture was spread all over the border and watered in. Once a fortnight or so from autumn till late in spring a pailful of this mixture was applied. Throughout the present season, so far, this tree has not been syringed. It is next to the end of a house getting the early morning sun. Watering as usual has been the rule, but always more soot has been washed into the soil each time clear water was applied. There is a good crop of fine fruits this year, not any dropping of leaves, and a most satisfactory and healthy growth. I should have written earlier, but was afraid I might be premature and so mislead other cultivators. But owing to the serious spread of silver-leaf in this country, it seems only right that my experience should be made known. All being well, the soot treatment will be continued, the doses being two-thirds in strength in autumn and winter and one-third during the summer months. An even state of moisture of border soil must be maintained always, judicious ventilation and not any syringing of foliage in the early stages of growth, but a moderate atmospheric moisture. I do not think red spider will gain much hold on the foliage where soot is so plentiful. Extra care should be taken not to allow overcrowding of the shoots. I have for a long time believed, and still believe, that silver-leaf is mainly introduced into our orchards through decaying wood, possibly by the rotting ends of supporting stakes left in the ground.—GEO. GARNER.

SEA PINKS.

THESE are most brilliant on the southern shore of County Down (Ardglass) where we are staying. Some of the isolated specimens growing in the crannies and fissures of the dark rocks have thirty to forty flowers, and each flower has twenty to thirty small florets. It is marvellous how they grow with very little soil bloom so profusely, but I suppose the rains wash in the necessary nutriment from the clouds. They are in great pink masses along the stone walls which partition the fields by the sea.—WALTER SMYTH.

FAIRY ROSES.

I AM open to correction, but I fancy the term "Fairy Roses" ought to be confined to those miniature forms of Rosa indica which must be identical with, or which must closely resemble, the Rosa Lawrencianas of the early years of the last century. I was accordingly surprised to find in a contemporary a paragraph headed Fairy Roses which dealt with Dwarf Polyantha varieties, such as Ellen Poulsen, Jessie and Coral Cluster. Surely this is wrong. I can remember Fairy Roses in my father's garden somewhere about the year 1880. They were the gift of a very old lady nearly ninety years old, and we were told that she prized them as relics of bygone days. Are not the true Fairy Roses those which we find in seed lists under some such name as annual Roses and which come into flower the same year in which they are sown? However this may be, it would seem that these small mites are beginning to be more appreciated and better known if we may judge from their more frequent inclusion in catalogues. Although they are quite hardy, I have hitherto always grown them in pots, and after they have once flowered they have been thrown away. Last year the practice was varied. We allowed half a dozen to keep on growing under glass all autumn. The wood was thus thoroughly ripened; then in November each one was cut hard back so that only about 1½ins. or 2ins. of stem were left. These lived all winter in a cool greenhouse, and in the middle of February were started into growth. They were fed with weak manure and soot-water, and they developed into jolly bushy little plants that in the second week in April were covered with bloom. They had given a minimum of trouble. From the seed-pan they were put into 3½in. or 4in. pots, from which they were never removed. We never allow the young seedlings to run straight into bloom, but keep pinching out all flower-buds and shortening back the stems until a good well branched foundation is made. The benefit is seen at their first time of blooming, but more so at their second after they have had their autumn cut back. It is worth mentioning that these plants may be turned out and grouped together in a drainless bowl when they are in flower. The effect is excellent, and such bowls may be used for decorating the centre of dining-tables or for placing in rooms or halls. The little Roses vary in colour from white through pink to a deep rose. Some are single, others anything from single to a fairly full double.—J.

HARDY FLOWERS IN THE EXHIBITION TENT.

ENORMOUS public interest is now shown towards hardy flower groups exhibited on the ground so as to show as far as possible their natural habit of growth. This was much in evidence at the York Gala held in Bootham Park, York, on June 15 to 17 last. There were three groups of this class staged on ground space not exceeding 350 sq. ft. Although these groups were effective, in my opinion they were far from perfect. Why were two such groups staged like sheaves of corn? The wording of the Schedule by the York Floral Committee for the guidance of exhibitors in this particular class is very clear and good. The only group I could observe which complied with the

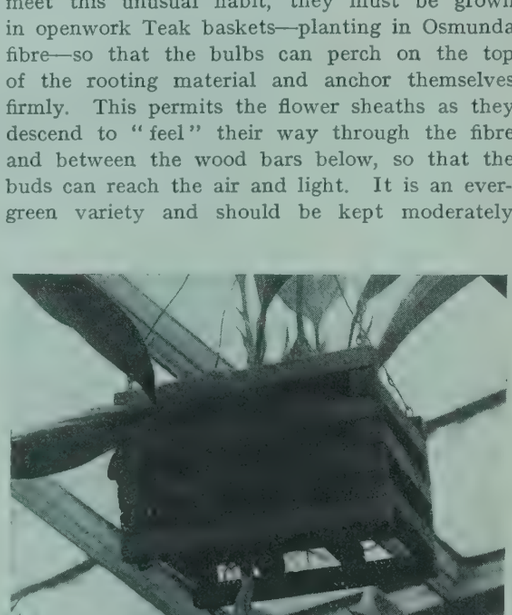
in staging, showing all the bunches quite distinctly. All three exhibits were open to criticism *re* staging and blending of colours, etc. I was always taught that to arrive at blending of colours, strong blues, including light and dark shades, should be placed more or less together, followed with white, cream to pale yellow, then proceeding with pink, rose, crimson to the strongest scarlets, then passing through orange to brightest yellow. Purple and lilac always look well against white or soft yellows, but out of place with red and pink. I would like to know how the judges, in making their awards for these groups, arrived at twenty points out of a possible twenty for the blending of colours in the first prize group, or even eighteen out of twenty in the second prize group. The idea of the York Committee, according to the wording of the schedule, is of grouping hardy flowers naturally, or as near as possible as grown, so the awards might easily have been reversed in arriving at the meaning of the schedule. A judge may be an expert on fruit, vegetables, stove or greenhouse plants, but it appears to me that provincial show committees should, when selecting judges, choose those thoroughly conversant in the particular class they are to judge; say, for hardy flowers, not only in the growing of the flowers themselves, but also as to the art and difficulties in exhibiting. The staging of flowers is not so simple as it looks. I consider there is room for improvement. What is wanted is hardy flowers staged as naturally as possible for the benefit of the public who want to grow them. This will not be achieved by encouraging masses of flowers banked up like sheaves of corn, such as the first and second prize groups at York, in which many flowers growing naturally 2ft. or more, were cut down to 6ins., just to conform to banked masses of colour, which was anything but complying with the York schedule. I saw one cluster of Oriental Poppies not more than 6ins. high, and the same might be said of Lilium croceum, only two examples out of many. The rock gardens were another leading feature at York, but here again masses of packed colour appealed to the judges' eyes in preference to the more natural staging of the true alpine or rock plants. Although much improvement has already been shown in exhibiting rock gardens, there is still room for more, not only in the judging, but in the construction of them. We want, as far as possible under the presiding circumstances, the natural placing of the stone and natural planting of the flowers, not artificial work more than is necessary. In my estimation, too much is made of the pool in conjunction with rock garden exhibits, and the placing of Water Lilies and other aquatics cannot naturally be associated with true rock or alpine gardens. The trickling of water out of a rock, thus creating a moraine in the base, and the water leading to obscurity is, as far as my experience goes, quite natural, but let pools of water be associated with formal gardens not natural or ornamental rock gardens. The way to bring exhibitors into line in the natural staging of hardy cut perennials and alpine plants is by judging the exhibits strictly on natural effects as far as it is possible to carry them into operation. Rock gardens and hardy flower groups are two most interesting exhibits in connection with any flower show; so much so that visitors and lovers of these flowers should survey them under as natural conditions as regards growth as possible.—J. L. EDGINTON.

BRITISH GROWN—BRITISH VIGOUR.

THERE have been many valuable cultural articles in THE GARDEN, especially of late, but I question whether a more outspoken and helpful article than that on "Rose Troubles and Remedies" (page 316) has appeared. Rose growers generally owe you a debt of gratitude. Your correspondent says he erred, knowing what to expect, and suffered a just retribution. We who have hitherto sinned in ignorance will not be in the same boat in future, particularly after the emphatic moral pointed by the title of the illustration.—W.

THE UPSIDE DOWN FLOWER (STANHOPEA OCULATA).

THIS is one of the most fascinating and beautiful of all the summer-flowering Orchids and, though the flowers are but short lived, very well worth growing in the intermediate house. They might justly be termed the Upside Down Flower, for, instead of behaving in the accepted manner, the flowers push *downwards* from the roots, while the leaves and pseudo bulbs grow *upright*. To meet this unusual habit, they must be grown in openwork Teak baskets—planting in Osmunda fibre—so that the bulbs can perch on the top of the rooting material and anchor themselves firmly. This permits the flower sheaths as they descend to "feel" their way through the fibre and between the wood bars below, so that the buds can reach the air and light. It is an evergreen variety and should be kept moderately



A BEAUTIFUL SUMMER-FLOWERING ORCHID (STANHOPEA OCULATA).

moist all the year round, though a considerable reduction in the supply should be made during the winter. At the present time, while the buds are pushing out, it is almost impossible to water too freely either at the roots or in the atmosphere. I always dip my plants daily, in addition to overhead syringing both night and morning when the house is opened and closed. The flowers are a very light buff yellow, densely covered with small maroon markings; the centre ivory white with two large marks, like prominent eyes. While in flower the plant should be kept as cool as possible, and where this is done they remain in good condition for about a week, during which time they perfume the whole house and surroundings with an overpowering perfume something like vanilla. Anyone who has once inhaled their fragrance is never likely to mistake it aga The time for repotting is when the new growt are about 2ins. long, though with careful waterir so that the compost remains sweet, the plar will go for four or five years undisturbed. H. W. CANNING-WRIGHT.

LIME AND BEARDED IRISES.

ABSENCE from home prevented an earlier rep to your interesting remarks in June issue, page 301. Many of the points you refer on the cultivation of Irises will meet with gener agreement. May I, however, ask leave to challen your statement that, "if there is evidence of th trouble (rhizome rot) ordinary lime should n be applied to the beds," on the ground that th bacteria responsible for rhizome rot "multip amazingly in lime." I, of course, accept th last statement, if only because it is made on th authority of Mr. Dykes. But I do not accept th inference that, because those bacteria multipl in lime under certain circumstances, they mus necessarily do so under all conditions. On th contrary, I confidently assert from my own person experience, where there is evidence of this troubl it can be prevented from spreading if, in con junction with other treatment, slaked lime i *properly applied* to the plants, as well as to th surrounding soil, and if applied in time, early i the year, it will act as a preventive. A few year ago I described in THE GARDEN how I came t use lime during a most malignant attack of rhizom rot, which destroyed large numbers of my plants At that time I knew very little about Irises, an nothing about their diseases. Those I consulte could not help me and at last, when the troubl was in full swing, in my despair, and in my ignoranc (for which I am now profoundly thankful), a certain form of treatment suggested itself to my mind. To put it shortly, I first completely excise the whole of the diseased part, cutting well into healthy tissue; next I rubbed lime thoroughly into the raw surface and then scattered lime very freely all over the group of plants attacked, and the soi around. Improvement soon set in, and a signi ficant fact is that no fresh plant was attacked in any group so treated. Since then I have tried the treatment over and over again and, with the excep tion of this year, I dressed the whole garden in January or February thickly with lime. This disease has now completely disappeared. I should add this, however, I also give two dressings of basic slag on the advice of Mr. Bliss. Now, sir, how can I, with such an experience, discard the use of lime? My plants are all healthy and happy, as many people who have seen them can testify, and I no longer fear this deadly and destructive disease. Possibly superphosphate may also be an excellent application, but I have used it so little that I cannot say much about it. An impression was left on my mind, however, that "leaf spot," another Iris disease, seemed to be rather worse after its use, but of this I am not certain—CECIL A. P. OSBURNE.

The Royal Gardeners' Orphan Fund.—The annual dinner of the Royal Gardeners' Orphan Fund was held on June 22, when many distinguished visitors were present. Viscount Elveden, C.B., M.P., was in the chair. Generous contributions from the chairman and Lady Elveden, and many other donations promised at the dinner will go towards furthering the very worthy object of assisting children left behind by professional gardeners, who are now dependent on others for support. The fund deserves all the financial help that can be given.

Arenaria balearica in the Rock Garden.—
all the dainty little miniatures found in the
k garden this is one of the most attractive,
reason of its extremely dwarf stature and the
y it takes the shape of the rock over which it
growing. For it spreads from the spot at which
was first planted until it has covered all the
ailable earth and then begins to cover the
rounding rocks and run among the neighbouring
nts, forming quite unpremeditated little pictures
d combinations of delightful charm. In one
k garden we know it has made its way between
e Ramondias in a cool and shaded corner, and
w completely hides the rocks, from among the
vices of which these are growing. Here it
ms a carpet, starred with the "wee white
wers" between which the bolder wrinkled
iage of the Ramondias stands out, with the
ort stalked mauve flowers rising from the centre
the rosette. Arenaria balearica thrives anywhere
cept in the hottest sunshine, doing splendidly
the north side of large rocks, but it must have
ade and moisture, and will then spread, flower
d seed freely.

The China Aster.—Unless rain should come,
is beautiful annual (Callistephus hortensis)
ll benefit greatly by a mulch of decayed cow
anure or other rotted manure. This prevents
aporation and keeps the soil cool. Given this
e plants will supply a wealth of bloom in the
rden from August to November. China Asters
e best planted in groups, and on banks by the
aterside they are very effective. Although
ey will thrive in shade, they are more happy
d effective in sunny situations.

A Minute Water Plant.—Azolla Caroliniana
perhaps the tiniest of all water plants, and quite
good plant can be grown in a depth of 3ins.
water with an area no larger than that of a
cent sized sugar basin. In appearance it is a
ating Moss lying flat on the surface, pale green
colour; where grown in full sunlight it is tinged
d tinted with wonderful rose pink and brown
es. Naturally, so frail a plant must be grown
very still water—if placed in the least current
e whole would be swept away and lost. The
st place to grow it is in a small enclosure—even
bird bath is sufficient, though unless this is
vered with netting the birds in their ablutions
row the tiny plants all over the sides. It is
fer to skim a few lumps of the surface and
lace these in the greenhouse during autumn, in a
owl with a little soil at the bottom, so that
the outdoor plants are killed by winter
ost the stock can be replaced. As soon as the
ring comes and the plants are placed outside
gain they propagate very rapidly.

A Strange Succulent.—One would go far
efore one found a more interesting and prolific
lant than Bryophyllum proliferum. It is very
asy to grow and reaches a height of 18ins. to 1ft.
he stems are thin and composed of woody fibre
ith thick, fleshy leaves of a curious glaucous
ue green colour. The edges are serrated and
ged by vivid pinkish red. At the top of each
em in summer a short spike of inconspicuous
ttle balloon-like flowers appears, that last for a
nsiderable time, as the buds develop very slowly.
e main interest of the plant lies in the mature
aves which produce dozens and dozens of tiny
antlets on their edges. These are quite perfect
d reach to some size, and push out roots before
ey become detached and fall on to the soil
neath. Here they quickly take hold of the soil
th their roots and commence to grow. A
rtion of the old stems—usually those that have
ered—die back to the soil level, but there are
ways such large numbers of young plantlets

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Irises.—Where summer planting of the Flag section is practised an endeavour should be made to get the work done as soon after flowering as possible, and should a dry spell follow, copious waterings may be necessary to get them thoroughly re-established.

General Work.—The time available for watering and other attention to recently bedded plants must be the guiding factor as to what shall or shall not be done. Where such arrangements can be made the evening is preferable for watering and spraying as the plants then have several hours to recuperate and get full benefit before the hot sun again taxes them. Important at all seasons, tidiness should be striven for under any circumstances during the time the beds and borders are gay with plants and flowers, for weedy walks and untrimmed grass edges greatly lessen the general tone of the grounds.

The Kitchen Garden.

Asparagus.—Cutting being finished, see that the beds are kept free from weeds. In exposed situations it may be necessary to support some of the stronger shoots separately to prevent their being blown about too much. For general purposes strong twine run along either side of the beds and attached at intervals to stakes will be sufficient, afterwards running some twine through the beds from side to side wherever the growth merits it. Seedling beds must also be kept clean and thinning attended to where required.

Planting.—As plants of winter greens, Celery and Leeks become fit continue to plant. On light soils drills should be drawn for the Brassicas to enable the watering of the plants to be more thoroughly done. Ground cleared of early Potatoes and Peas may likewise be replanted with greenstuff or a sowing of French Beans, Shorthorn Carrot, Spinach, Turnip and Lettuce may follow. Make a sowing of Parsley for winter use within the next fortnight, and if convenient to sow where frames may be placed over it during winter so much the better.

Plants Under Glass.

Humeas developing their plume-like flower-heads should receive some weak manurial assistance and plenty of room in a cool, airy place, must be afforded them if they are to show to advantage and fully develop. Although somewhat uncertain during climatic changes when plunged out of doors, a few well grown plants in full flower make a good change. They should not be used in a too exposed situation, and they associate well with Cannas, Nicotianas and Celosias. To raise young plants for another season sow seeds now in light, sandy soil under cool and semi-shady conditions.

Salvia splendens and other Salvias intended for winter flowering must be potted on as necessary, aiming at the development of such specimens as are most useful. Pots 8ins. to 10ins. across must be allowed for large plants, but most excellent decorative stuff can be obtained by a late-struck batch of cuttings, finally potting them into 5in. or 6in. pots. A somewhat sheltered spot for the hottest part of the day should be chosen, and the plants syringed well during the cool of each evening. Salvias may also be planted out in the reserve garden and lifted during September and good results be obtained.

Primulas must be pricked out and potted on as successive batches become fit, using a light compost. A slightly heated pit will suit the plants well during early growth, and shade should be given from bright sunshine.

Cinerarias likewise must be kept on the move, but these should be grown under quite cool conditions and always shaded from sunshine.

Fruit Under Glass.

Melons.—Where supplies of this fruit are required for late summer and early autumn seeds should be sown now. Germination readily takes place at this season and fresh bottom heating material is quite unnecessary. One of the simplest methods to adopt is to prepare the bed and then sow a couple of seeds to each mound at 18ins. to 24ins. apart, and then weed out the weakest as soon as such may be determined. Make the utmost use of sun heat, but give a little fire heat if possible at nights and on dull or wet days.

H. TURNER
(Gardener to the Duke of Northumberland.)
Alnwick Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—Keep the hoe going freely between rows of earlier planted Sprouts, drilling up when necessary. A final planting may yet be made from the open seed-bed and, should the autumn be favourable, they will develop into useful material, although in our somewhat late district we find it essential to have plants established and well under way in their final quarters by this time.

Onions raised under glass and planted out with a view to growing large bulbs must be well attended to and encouraged by giving copious waterings of liquid manure and soot-water. Where there is a difficulty in obtaining such, a light sprinkling of sulphate of ammonia will encourage a quicker growth and take them past the period when they are most susceptible to attacks from the Onion fly. The dry weather experienced here during the past few weeks has retarded growth, while heavy gales from the north-west have knocked the foliage about. Rows of seedlings may now be thinned, but where the maggot is troublesome, leave the plants much closer, keep the soil constantly thinned between the rows, and dust occasionally with soot.

Broad Beans.—Early crops which are flowering and setting freely should have their tops pinched out as soon as a crop is assured. This encourages the more rapid development of the pod and helps to prevent attacks of black fly. Late lots should now have the soil drawn up to the plants.

Methvens June Broccoli.—No further time should be lost in planting out this most important crop, as in favourable districts it fills a blank until the early Cauliflowers turn in. Purple Sprouting is also useful for furnishing an earlier crop. Allow 2ft. apart each way between the plants, choosing a well enriched and sheltered position.

Fruit Under Glass.

Vines.—In early houses, where the berries are beginning to colour, the border should be tested and, if necessary, well watered so that a sufficiency of moisture is ensured, coupled with a fairly dry atmosphere. A little top ventilation overnight should now be allowed, as this is a necessity for the production of well ripened fruit. Examine the bunches regularly with a view to the removal of split or decaying berries.

Fig Trees.—Where these are carrying good crops of fruit they will require extra attention in the way of watering, feeding and syringing, especially should the weather be scorching hot, so that they may be kept in good health and free from insect pests. As the season advances, the ventilators may be kept open continuously.

Plants Under Glass.

Begonia Gloire de Lorraine.—These winter favourites will now be ready for moving into their flowering pots, which may vary from 5ins. to 7ins. according to the strength of the particular specimens and the desires of the grower, as in many instances the smaller sizes are the most useful for filling bowls, etc., for house decoration. A similar compost to that advised in a previous issue, with the addition of some approved fertiliser, will be found suitable. A few hanging baskets might also be filled at this time, as this Begonia is eminently suitable for this class of work.

Primula malacoides.—A sowing of this free-flowering Primula may be made now and will be found to germinate readily. This Primula since its introduction some seventeen years ago has been most popular and is now universally grown. It is adapted for window culture. It flowers profusely if planted in pans about 4ins. in depth, the shallow root-run evidently being agreeable to its welfare. The white variety is also to be recommended; similar cultivation to that accorded Primula obconica suits it well.

Liliums.—Pots of Lilium lancifolium and auratum growing in cool quarters for flowering later in the season should be given a light top-dressing of artificial manure; while if pots were left with a view to additional soil being added, this work should be completed at once. Should the growths be infested with aphis, syringe freely with a weak solution of Abol

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock

Second Crops in the Kitchen Garden

By Present Sowing Autumn Vegetables can be Ensured

EARLY crops of Broad Beans, Potatoes, Spinach, Lettuce and Spring Cabbage are all being cleared from the ground, and the question arises, "What are we to plant in the vacant spaces?" The season for sowing is not yet over; certain crops may be sown now for use in September or October, or even later. The importance of July sowings has aroused great interest within recent years, and the practice is now being adopted in many gardens. Let it, first of all, be made quite clear that to be successful with late sowings deep cultivation is essential. If the soil is shallow worked it quickly dries out and the crop fails. Again, constant hoeing is of the greatest importance. Too much stress cannot be laid on the use of the hoe, especially in dry weather. Continually working the hoe up and down the rows will do more good than all the artificial watering that is available. With good cultivation excellent crops may be obtained in autumn from July sowings. Needless to say, a wet summer is most favourable for late supplies. Let the seed be sown rather deeper than in spring time, sow thinly, and make a point of thinning the seedlings early. One secret of success with July sowings is that the crop is sown where it is to stand, that is to say, there is no check of transplanting. The soil is now warm, and with summer rains the growth of the seedlings is phenomenal. Before sowing, however, it is an excellent plan to water the drills or shallow trenches. This will give the seedlings a good start.

Peas.—These may be sown without delay. Early varieties should be selected, as the tall-growing main crops take a much longer time to complete their growth. Let us be sure to grow good flavoured varieties, such as Autocrat, Bountiful, Pilot and Ringleader. Sow the seed in shallow trenches, and place underneath them a good supply of short well rotted manure. Spinach may be grown as a catch crop between the rows.

Potatoes.—Now that new Potatoes are plentiful, old tubers, where such exist, may be planted with every likelihood of yielding good crops at the end of October or early in November.

Carrots.—This is one of the most useful vegetables to sow now for winter use. A well drained plot thoroughly tilled should form the seed-bed, and the early stump-rooted Carrots should be sown, as this type comes to maturity quicker than the longer ones. Young roots from this sowing will be available for use from the end of October onwards through the winter, and they should be pulled as required.

The following list of vegetables may be sown this month: Spinach, Spinach Beet, Endive, Dwarf Beans, Lettuce, Turnips (Early Snowball), Turnip-rooted Beetroot for use in salads and Radishes.

Early in August make a good sowing of Onions and Harbinger Spring Cabbage. These two crops will stand in the open through the winter.

FORTHCOMING EVENTS.

July 4.—Nottingham and Notts Chrysanthemum Society's Meeting.

July 5.—Royal Horticultural Society's Holland House Show, to be held at Kensington High Street (three days).

July 6.—Lidlington Food Production Society's Summer Show. Purley Rose and Horticultural Society's Show.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*The Editor endeavours to make* THE GARDEN *helpful to all readers who desire assistance, no matter what the branch of gardening may be, and with that object makes a special feature of the "Answers to Correspondents" columns. All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. The name and address of the sender are required in addition to any designation he may desire to be used in the paper. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant. Letters on business should be sent to the* PUBLISHER.

FLOWER GARDEN.

THE PROPAGATION OF HELIANTHEMUMS (P. V. B., Essex).—The beautiful Sun Roses may be readily propagated from seed, or cuttings may be taken in July and August and inserted in sandy soil. If kept close in a shady frame there should be no difficulty in rooting them.

PROPAGATING NEPETA MUSSINII (P. V. B., Harlow).—The best method of propagation is by division of the roots in the spring just as growth is about to recommence, though cuttings will root readily at any time they are obtainable if firmly inserted in pots of sandy, leafy soil and placed in gentle heat.

CHEIRANTHUS PAMELA PERSHOUSE (M. J., Chester).—This beautiful hybrid Wallflower is a perennial, and if after the spring flowers have finished it is cut back, it will bloom again a month or so later. It can be propagated by cuttings, and though there are no shoots at present, the pruning will induce their formation.

PHLOXES ATTACKED (T. G., Cheshire, Epicure, Hants, and S. W. G., Ascot).—The Phloxes are badly attacked by eelworms (Tylenchus sp.). Nothing can be done to destroy the eelworms in the stems affected, but it would be well to remove and burn them and propagate new stock from cuttings of healthy shoots. The soil may be infested and, if so, it would be well to grow Phloxes on a new site entirely, starting with healthy plants.

PROPAGATING ANEMONES (Lord George, Manchester).—Assuming that the St. Brigid Anemone is meant, the best method is to mark the desired sorts, lift the roots as soon as they have properly ripened, clean and divide them. By this means a sufficient stock of any desired variety may be obtained in a few years.

PLANTS FOR WALL BORDERS (N. G. W.).—Our correspondent is quite right to mass the flowers on the borders for effect, but the various clumps must be judiciously disposed so that there will not be any big gaps in the display of flowers. Antirrhinums do well in a dry soil; sow seeds of the medium-height varieties at the end of July and transplant the resultant seedlings in clumps in the borders in September. They will flower next June. Late in October plant the following: Delphiniums, Anemone appenina, Aster amethystinus, blue; Anemone japonica, Scabiosa caucasica alba, dwarf Phlox, white; Anemone japonica rubra, Lychnis Viscaria, pink; Lychnis chalcedonica, Heuchera san guinea, crimson; Helenium, Solidago, Coreopsis, yellow; Asters, Eryngium and Violas, purple. The last named would look charming in clumps near the front of each border. The plants named would be inexpensive and yield a very good supply of flowers during next summer months. Any vacant spaces may be filled with Mignonette.

THYMES AS EDGING PLANTS (M. H. B., Norfolk).—Many of the Thymes would be eminently suitable as edgings for Rose beds in a very sunny situation. They are mostly evergreens, though towards the end of the winter the foliage of some sorts becomes rather shabby, but this condition does not last long. We fear it would not be possible to obtain sufficient plants of Thymus carnosus for the purpose, nor is it always hardy. If it is decided to border the beds entirely with Thymes, it would add greatly to their interest and attraction if as many of the suitable sorts as can be obtained were planted in fair lengths. Thymus Serpyllum is the commonest and its rosy-purple flowers are very attractive. Rather earlier to bloom is the Russian odoratissimus, which grows somewhat higher and freer than the former and becomes smothered with delightful lilac flowers. T. azoricus, from the Azores, makes good tufts and opens its mauve flowers just after T. Serpyllum has reached its best. T. nitidus grows more bushy than the others, but it could easily be kept sufficiently dwarf by occasional pruning. T. citriodorus, the Lemon Thyme, is really a variety of Serpyllum; the golden form (aureus) is more robust and keeps its golden foliage right through the winter. T. Serpyllum micans is another charming golden Thyme and becomes quite nice little bushes about 6ins. high. T. strictus is an interesting, erect growing little shrub. Usually several varieties of Serpyllum may be had in sufficient quantity. These are pulchellus, really most beautiful when in flower; album, a good white; atropurpureus, deep purple; carneus, flesh colour; and splendens, vivid purple. The common domestic Thyme is quite a suitable plant and it is very pretty when in bloom. Failing sufficient quantities of the others, this could at first be planted in quantity and gradually reduced later on. In the light, dry soil we should prefer to plant during the autumn, but the planting could be carried out in the spring. Most, if not all, of the above varieties could be obtained from Messrs. G. G. Whitelegg and Co., Chislehurst.

TREES AND SHRUBS.

HOLLY FOR EXAMINATION (D. C., Perthshire).—The flowers on shoot of Holly are all male, so some female plants should be obtained.

WISTARIA UNSATISFACTORY (A. D., Paston).—The Wistaria is dying as a result of the drought so far as we can see from the shoot sent. Damage may, however, be evident lower down this particular stem.

LABURNUM SHOOTS FOR EXAMINATION (W. L., Skifnal).—The Laburnum is not the common species but the well known graft hybrid, Cytisus Adami. This hybrid normally gives pinkish flowers, but sometimes buds are formed from the tissues of the stock (which are outside the "hybrid") and produce the flowers and foliage of the common Laburnum only; sometimes from those of the scion (which are inside) and produce flowers and foliage of Cytisus purpureus. There is, therefore, at times the phenomenon of pink Cytisus Adami, yellow Laburnum, and purple C. purpureus all on the one tree.

GREENHOUSE.

VINE UNSATISFACTORY (A. G. W., Kent).—The shoots sent are scorched, either through being too near the glass or because the ventilation has been insufficient.

FRUIT GARDEN.

RED CURRANT BUSHES ATTACKED (S., Chester).—The Red Currant is attacked by a species of aphis (Rhopalosiphon ribis). The bushes should be syringed in the same way as the Black Currant. The spraying should have been done on the first appearance of the pest just after the leaf-buds begin to unfold.

PEARS ATTACKED (Epicure, Hants).—The Pears have been attacked by the Pear midge Diplosis pyri. This pest lays its eggs in the flowers and the grubs (to the number of perhaps forty), devour the interior of the young fruit, falling to the ground about May. They become pupæ and remain there until the following spring. The best treatment is to collect and burn the fruits which have been attacked. They may easily be recognised by the fact that they grow more quickly than the healthy ones.

CURRANT BUSHES ATTACKED (K. C. S., Chester).—The Black Currants are badly attacked by the Currant aphis, and should be sprayed with a nicotine wash now if there is no fruit on them. If the bushes are carrying fruit, spray after it has been gathered.

GOOSEBERRIES DISEASED (A. M. D., Norfolk).—The Gooseberries are attacked by American Gooseberry mildew. The bushes may be sprayed with Burgundy mixture quarter strength (1lb. of copper sulphate, 1½lb. of soft soap, 10 gallons of water), and the berries may be rinsed in water to cleanse them from the spray.

APPLE COX'S ORANGE PIPPIN UNSATISFACTORY (K. C. S., Christleton, G. M. H., and A. M. D.).—The Apple leaves have been damaged by the drying winds that have been so prevalent this season. Shelter is most desirable for such an Apple as Cox's Orange Pippin.

CURRANT BUSHES DISEASED (C. D., Paston).—The Currant shoots are attacked by the die back disease of Currants, Nectria cinnabarina. This is best treated by cutting out completely the affected branches.

APPLES ATTACKED (A. M. D., Walsham).—The Apples sent are attacked by the Apple sawfly. All such fruits should be removed and burned before the grub leaves the fruit. The eggs are usually laid in the flower, and no spraying treatment is likely to avail.

HOLLY TREES ATTACKED (K. C. S., Christleton).—The Holly is attacked by the leaf-mining maggot of a small fly called Anthemyza ilicis. Spraying is not likely to be of much avail, but the removal and burning of affected foliage would go a long way towards the prevention of future attacks.

KITCHEN GARDEN.

PEAS AND BEANS UNSATISFACTORY (J. W. R., Durham).—We can detect no insect or fungus upon the plants sent, and suspect the cause of the trouble may be drought. The limestone used, though very impure, contains no poisonous substance so far as we can ascertain.

MISCELLANEOUS.

SLAG (H. W. Ampthill).—Slag, as generally understood, is the iron dross from a smelting furnace. A large quantity is ground finely and becomes basic slag, the slow-acting phosphatic fertiliser which is so extensively used by gardeners and farmers. It is also cast into slabs for pavements and other purposes, so that it seems probable that this material is the subject of our correspondent's enquiry as to its suitability for rock garden construction as a substitute for boulders. Its principal constituents are phosphorous, silica and lime. No fears need be entertained that "when wet this slag will give off a gas injurious to plants."

NAMES OF PLANTS.—M. C., Gravesend.—Pentstemon barbatus.——W. A. S.—1, Allium acuminatum; 2, Spiræa canescens.——M. W., Inner Temple.—Asphodelus albus. This plant is quite hardy.——B. M. C., Bedale.—Phyteuma Scheuchzeri. This plant is a biennial.——Guelder.—1, Probably Dianthus cruentus, please send flowers; 2, Erodium Manescavi; 3, Lychnis Viscaria; 4, Viscaria atropurpurea.——K. C. S., Christleton.—Garden seedling Primulas, of which there are many similar to those sent under various names.——J. C., Shrewsbury.—1, Primula sikkimensis; 2, P. hybrida (Cockburniana × pulverulenta); 3, P. Bulleyana var.; 4, P. japonica var.; 5, Inula orientalis; 6, Pulmonaria paniculata.——Mrs. J., Rustington.—1, Calceolaria polyrrhiza; 2, Abutilon vitifolium; 3, Aceras anthropophora.

THE GARDEN

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NOTES OF THE WEEK

DURING the next few weeks it is possible that some of our readers will be going to Switzerland. They, as well as those who have been, will read with interest an article which appears in this issue. In it the writer suggests in what way, in his opinion, many of our rock gardens can be improved. We hope that the Swiss meadows will not be too heavily robbed as the result of the article! We believe that the manner in which some thoughtless individuals injure the beautiful Swiss pastures has provoked much criticism, but little objection will be raised if the plant collector goes to work in the right way. Certainly none is likely to be forthcoming if it be a case of seed gathering. Whether or no there is agreement with our contributor's suggestions, it is certain that there is wide room for improvement in many existing rock gardens in this country.

Keep an Error Book.—The season is now becoming far enough advanced for our errors of omission and commission to begin to shine out clearly and convincingly in the garden. We may retrieve the position by putting in something else, and it is good to do so, but an error book, "Crimes in 1921," will be a valuable asset when 1922 comes along. "The man who never made a mistake never made anything" is a somewhat hackneyed truism, but it is equally true to say the man who never learnt by his mistakes is a fool. In the same way that sowings and plantings are recorded, mistakes and errors should be registered. They will provide most helpful—perhaps entertaining—reading later on. There may be, there will be, mistakes next year, but they need not be the same, for the error book and experience which it records will safeguard.

Annual Larkspurs.—The present season, thus far, has proved that with annual Larkspurs one may in a time of prolonged drought have much beauty in a garden with plants which are as easily raised in a cold frame or seed sown on a sunny border as when their upbringing is, in the first instance, in the greenhouse. It is somewhat of a puzzle to understand why those who, for reasons of space often, are not able to grow the tall herbaceous Larkspurs, leave out of their purview entirely the annual sorts. They possess colourings so attractive in a garden and flower for a much longer period than those among the imposing hardy groups. Indeed, in the annuals we have tints that are not ound in the perennial kinds—rose and scarlet, for examples. Few annuals stand dry weather better and need less watering than these very charming Larkspurs.

Staking Liliums.—We have particularly noticed lately that Lilies which would be helped by staking, have not been. In consequence the plants are liable to be blown down and the beauty of the flowers is impaired if not lost altogether. Staking does not, perhaps, enhance attractiveness, but it can be carried out in a manner that it is not altogether unsightly, and this is possible if Bamboo stakes are used. Stronger-growing Liliums need stouter supports. Where such Lilies as auratum and testaceum are growing among Rhododendron bushes they will be greatly benefited by copious supplies of water and occasional applications of liquid manure water, but, alas! they may not be given while drought lasts. A Lily which, fortunately, needs no staking except perhaps in its early stages of growth, is giganteum. This stately Lily produces massive stems 6ft. to 8ft. high. It is best planted in a shady spot in the wild garden or on the fringe of woodland. We have just seen a fine group of this Lilium planted in semi-woodland and a delightful and instructive sight it was.

THE UNSTAKED LILIUM TESTACEUM DOES NOT ALWAYS MAKE A PLEASING PICTURE

IMPROVING THE ENVIRONMENT OF THE ROCKERY

Too frequently the so-called rock garden is little more than a rockery. It is here suggested that the surround should represent the alpine meadow. Even though there is small space at disposal, the writer's suggestion is worthy of full consideration.

MODERN literature on rock gardens shows an increasing number of articles on the treatment of alpine plants in "moraines" and dry walls, but practically ignores a most important feature of the mountains, the flowering meadow. As in theory so in practice; very few professionals give support and the public does not know the comparative ease and great beauty of this mode of cultivation.

The Herbaceous Meadow (or "Stauden Wiese" of modern Swiss botanists) should not be an appendix, but one of the main features of the rock garden. It should be constructed on a moderate incline as an approach or on the side of the rockery itself. The ground must be excavated to a depth of 2 to 3ft. and then receive the usual drainage of rubble. Fill in with the best material available, in preference sandy loam and some black peat, in which plenty of stones are incorporated (old porous bricks do excellently for this purpose). Let the surface be undulating and allow time for the ground to settle. Previous to planting slightly dig over, remove weeds and dress thinly with a mixture of sterilised soil and chips. Autumn is the best time because bulbs and tubers can be added. Plant in bold groups and create plant associations, which give an additional interest. Place a few well shaped boulders, which should show about 1ft. above ground, in suitable situations. Close by plant a small Spruce or two, or perhaps the common Juniper; these must be severely pruned every year. They will grow into odd shapes like their relatives in the Alps, which are yearly nibbled by browsing goats ("Geistannli"). Only in the case of a large area should the grass seed be sown direct in the meadow. When dealing with a smaller one sow the seed six weeks previous to planting in shallow boxes filled with sterilised soil. Break up the contents of the boxes when a few inches high and dibble in between the plants. Afterwards a good watering should be applied and the tufts will quickly spread.

Another way in which an established meadow can be made use of would be the excavation of fairly large and deep holes in which strong plants could find a permanent home. Fill in the holes with good porous soil and plant firmly.

In gardens where running water is available a feature could be made with a water meadow (not a substitute for the bog) where moisture-loving plants could be grown to advantage. Simple small weirs should be constructed for this purpose to allow occasional floodings of the low-lying meadow.

The Rock Meadows (or Wildheu Planggen of the Swiss) are the thin but very fertile pastures of the upper mountains. They are very often so situated that cattle cannot be driven up for grazing. The peasants cut the grass once a season and bring down the hay on sledges. Often the earth is here only a thin layer direct on the outcrop and very stony.

To bring those conditions in our gardens we must allow for a good depth, plenty of drainage and an addition of at least 50 per cent. chips to the soil. The writer has had a fair amount of success during the last seven years with a small meadow of this type, which is fully exposed to the sun. It is, however, advisable to sink a pipe (1ft. long)

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THE STONY BUT FERTILE PASTURES OF THE SWISS MOUNTAINS.

vertically in the ground to admit an occasional watering. The finest alpine grasses should be sown in boxes, but for the herbaceous meadow stronger kinds may be taken. The flowering grasses give an additional charm to the picture, while in the open border they would appear mere weeds.

In conclusion I would point to the additional space gained on the rockery for typical rock plants by the adoption of the meadow, and would urge amateurs to confine endeavours to true meadow species and primary hybrids.

The following is a selection of plants suitable for the herbaceous meadow (an asterisk denotes those fit for the rock meadow): *Allium pedemontanum, Anemone alpina, A. sulphurea, *A. narcissiflora, A. Pulsatilla, *Aquilegia alpina, *A. pyrenaica, A. vulgaris, *Arnica montana, *Aster alpinus, *Astragalus species, Caltha palustris, *Campanula barbata, *C. glomerata, *C. rhomboidalis, C. rotundifolia, *Carlina acaulis, Coronilla species, *Corydalis cava, *Crepis aurea, Crocus species, *Cyclamen species, *Daphne striata, Dictamnus, Doronicum species, Erigeron species, Fritillaria species, *Gentiana acaulis, G. asclepiadea, *G. Freyniana, G. lutea, G. punctata, *G. verna, Geranium species, *Hieracium aurantiacum, Lilium croceum, L. pomponium, L. carniolicum, L. umbellatum, Meum Mutellina, Narcissus species, *Orchis species, *Ophrys species, *Oxytropis species, Paradisea species, Phyteuma orbiculare, Phyteuma Scheuchzeri, Polemonium cæruleum, *Primula elatior, *Primula farinosa, *Primula longiflora, *Saxifraga granulata, Spiræa Ulmaria, Thalictrum species, Trollius species.—EAST MOLESEY.

THE ROSE SHOW OF THE YEAR

TO the enthusiastic Rose-grower all roads lead to Regent's Park towards the end of June, when the National Rose Society holds its great Summer Show. The weather last week, when this year's fixture took place, was beautifully fine, and in spite of the unfavourable season the very large number of visitors found an abundance of really good Roses on view. Soon after midday many of the blooms had lost their earlier beauty, but constant attention with small sprayers enabled many trade exhibitors to keep their decorative blooms fairly fresh. The exhibition Roses, each of which has a tube of water, were, of course, the best in respect of resisting the wilting effects of the great heat.

But it is the great collections of decorative Roses that are the spectacular feature of the Show, and for these the show-attending public owe a deep debt of gratitude to the trade and their large staffs of workers.

The first prize group, by Hicks of Hurst, was an interesting "break away" from the conventional method. His cross arches of the free-flowering Coronation and Excelsa with Joanna Bridge were very instructive and must have suggested to many garden-lovers the adoption of the idea of planting a free-flowering Rose of bush habit at the foot of arches or pillars destined for the tall ramblers. His massed stands of such varieties as Covent Garden, Ophelia, Richmond, Margaret Dickson Hamill, Florence H. Veitch, Mrs. Elisha Hicks and Mrs. George Shawyer gave an excellent impression of their great garden value. In the second prize large group by B. R. Cant and Sons there was a magnificent stand of American Pillar which plainly showed how exceedingly effective this Rose is for training against a garden archway or for any similar purpose. Among Cant's many dwarf Roses the fragrant golden Christine, Augustus Hartmann, of glowing scarlet colour, and the satisfying blush pink Mrs. George Norwood were all especially attractive.

A very pretty arrangement in the amateurs' group class, by Dr. C. Lacroze, was also especially effective and was quite a satisfying Rose garden in miniature, and much more effective than the usual serried rows of vases, though there certainly was a quiet dignity in the twenty feet open group by Chaplin Brothers which won the first prize. They had that best of all new pillar Roses, Scarlet Climber, even more beautiful than we have seen it since it was first shown by William Paul. This is distinctly a Rose for nearly every garden, for it has been more successful this year than many other sorts. Although primarily a Rose for arches, it makes a charming bush and also flowers profusely when the branches are pegged down. Ophelia, which might well be termed the Rose of the Show, for it was prominent in all the sections, was also particularly good.

The intelligent and tasteful use of black velvet for draping the stand and masking the vases in Frank Cant's exhibit of thirty-six garden Roses was quite successful and served to display to the full the charms of such sorts as H. E. Richardson, which, by the way, is a neglected but valuable richly coloured Rose and one that has done consistently well this season. Golden Emblem, Emma Wright and Los Angeles of the recent Roses were also very beautiful.

The smaller collection of decorative Roses by Spooner's of Hounslow was also an admirable effort. The single white Miss Dorothy Mocatta, Red Letter Day and Mme. Segond-Weber were quite delightful varieties. The class for a dozen

A GOLD MEDAL ROSE, MURIEL WILSON.

Polyantha Roses was also of instructive value. Mr. John Mattock had graceful sprays of Edith Cavell, White Pet, Ellen Poulsen and Rodhatte.

It is not given to everyone to be able to stage seventy-two exhibition Roses of superlative quality, but this Messrs. Alex. Dickson and Sons were well able to do, and it evoked unstinted admiration from the unending stream of critical visitors. In these classes for exhibition Roses it was interesting to notice that the comparatively new pink Mrs. Henry Morse was often represented, while H. V. Machin and Augustus Hartmann were the favourite scarlet Roses. The deliciously fragrant Juliet in full beauty was rare, but the season is greatly responsible for this. Many of the old varieties, notably A. E. Williams, Dean Hole and General McArthur, are still indispensable exhibition varieties.

The finest exhibition stand in the whole Show was certainly the wonderful eighteen Tea Roses by Mr. George Prince. It is safe to say that rarely, if ever, have Teas been so splendidly shown, and it fully deserved the Edward Mawley Memorial Medal offered for the best exhibit in the nurserymen's classes. Mr. George Marriott, a well known enthusiast, won a similar medal in the amateurs' section.

In the opinion of many the best method of showing Roses is in baskets as adopted by the National Rose Society and, as usual, these were very decorative. In addition to those of new Roses mentioned on next page the seven baskets by Chaplin Bros. were quite delightful. Most of the exhibitors of one basket of a Hybrid Perpetual Rose chose Frau Karl Druschki, but the blooms all wilted early, though were excellent at first.

Many of the amateur exhibitors added to their laurels, and it was pleasant to note that the veteran Rev. F. R. Burnside grows Roses even better in the Home Counties than when in the West. Mr. H. L. Wettern, Mr. R. de V. Pryor and Dr. Charles Lamplough all had excellent Roses, and were as successful as ever.

The baskets of Mme. Jules Gravereaux and Gloire de Chédane-Guinoisseau were admirable. The best blooms in the amateurs' classes were Mrs. J. H. Welch, Coronation, Mildred Grant, George Dickson, Mrs. Henry Morse, Dean Hole, J. B. Clark, Florence Forrestier and White Maman Cochet. Except for the fascinating little garden of Roses by Dr. Lacroze, the amateurs' exhibits of decorative Roses were not equal to those of previous years, but this was due to the weather and does not imply any lack of skill or enthusiasm on the part of the exhibitors.

The heat was generally too much for the decorative bowls, but most of the dinner-table decorations continued fresh. Those lady exhibitors who possess an eye for colour must have regretted it at Regent's Park, for their confections of Padre and Mme. Edouard Herriot gave an unrestful impression. Many used the blush Ophelia to good effect, and Mrs. Charlton's table was delightful—there were too many flowers in the second prize effort. Miss Ethel James, a new competitor, had a most artistic table of Isobel and Irish Elegance, while Mrs. Arthur Bide in the open class was, as usual, supreme. Her arrangement of Golden Emblem was quite delightful.

In these classes for table decorations the conditions prohibit the use of other than Rose foliage, but those competitors who were able to obtain graceful foliage sprays of such species as rubra and sericea scored over those who confined themselves to the foliage of the varieties. [illegible] It was a particularly graceful thought [illegible]

part of the Portland (Oregon) Rose Society to depute the American Rotarians now in this country to present the two medals won by English rosarians at the American Rose Society's competitive trials of Roses. The gold medal for the best climbing Rose was handed to Mr. E. J. Hicks for the variety Climbing Lady Hillingdon, and Mr. Hugh Dickson received a bronze medal for the blush dwarf Rose T. F. Crozier. The deputation was received by Mr. E. J. Holland, the President of our National Rose Society, who, after the presentations were made, conducted the deputation around the Show, which aroused their enthusiasm. Portland is known as the Rose City in America, for, as the leader of the deputation told us, "there are Roses everywhere in Portland; they take the place of trees in the streets and are grown in most of the window-boxes."

NEW ROSES

The special tent was fairly filled with new seedling Roses, but most of them were not up to medal standard. Not that there were any "weeds" among them; this is far from the state of affairs, but the majority were simply nice Roses for the garden—Roses that one would admire growing in the beds, and of such the Rose world already contains plenty and, one is tempted to add, to spare. With a few noteworthy exceptions, these new varieties were what may be termed miniature Roses: that is, small, pretty blooms which are attractive in the garden and are useful as buttonhole flowers and for filling small vases. Of this type Ariel and Puck, both shown by Bees, are good examples, but they did not appeal to one as being typical new Roses. Sovereign, also a somewhat small bloom, arrested the visitor by reason of its glorious rich orange colour. B. R. Cant and Sons have already had a certificate of merit for it, and the judges did not consider it quite worthy of the higher gold medal award. It probably failed in that the shapely buds do not fulfil their promise at maturity, when they are a trifle formless. But it is a gorgeous garden Rose and very free-flowering.

Gold Medal Roses.—Exercising a wise discretion, the judges awarded only two gold medals. The best of all the large number of new Roses was undoubtedly the splendid Tea variety,

Muriel Wilson. This delicately perfumed Rose is perfect in every respect and will be welcomed by the exhibitor and the grower of garden Roses alike. The illustration gives an excellent impression of the great substance of the perfectly formed blooms and the breadth of the rich cream coloured petals.

Betty Uprichard, shown by Alex. Dickson and Sons, is the other gold medal Rose, and this is decidedly a flower for the garden, though it will probably also be seen in future exhibits of decorative Roses. Its great charm is the wonderful deep cardinal crimson colouring on the outsides of the petals and the rich fragrance which seems to go with all dark Roses. As will be seen in the illustration, the fully open bloom is but little more than semi-double and the petals curl over, disclosing the warm, deep Peach colouring of the interior. The plants which accompanied the blooms bear out the raiser's claim that it is a free growing Hybrid Tea variety, possessing good foliage.

Certificates of merit were given to six varieties, and of these the most brilliant certainly was

Mrs. Henry Bowles. It was shown in a basket, and the massed blooms of vivid rose pink made a memorable display of rich colour. It is an all purposes Hybrid Tea Rose of rather more than average size and good shape and is slightly fragrant. Mr. W. R. Chaplin, who always has such beautiful baskets of Roses, is the raiser.

ROSE MRS. HENRY BOWLES.

ROSE SOVEREIGN.

ROSE BETTY UPRICHARD.

Lady Craig and W. E. Wallace, both by Hugh Dickson, are much, but not too much, alike. They are both shapely, fairly fragrant Hybrid Tea varieties of good size and full of petals. The colouring of Lady Craig is pale orange in the heart, paling to nearly white at the tips. W. E. Wallace is a lighter counterpart with the orange shading nearly a lemon yellow.

Mrs. Oakley Fisher will be welcomed by all who like a single Rose for table decoration. It was raised by B. R. Cant and to all purposes is a delicious golden buff Irish Elegance. The young foliage is purplish and the same colour persists on the stems.

Sybil is a Hybrid Tea or Chatenay type, though rather smaller and a trifle more pointed. It is one of Bees Roses and of blush pink colour.

Rosa lucens erecta is evidently from the same cross as that beautiful free-growing The Premier which we illustrated last week. It is equally as vigorous but more erect growing, and the flowers are a little smaller and paler. Like The Premier, it was raised by George Paul.

This variety was also entered for the Cory Cup, which will be awarded after the Autumn Rose Show to the best seedling climbing Rose of the year.

Other New Roses.—Innocence, a large pure white single Hybrid Tea with a beautiful cluster of golden stamens, is an improved Simplicity, but apparently does not retain its purity very long. Dorothy Howarth is quaintly old-fashioned in its flattish deep pink flushed flowers and a useful addition to the dwarf Polyanthas. Braiswick Pearl, one of Frank Cant's Wichuraianas, is another quaintly crimped little free-flowering Rose. Its colour is what one may term faded rose pink. Adonis previously had an award of merit, and its globular creamy lemon flowers which are lightly flushed with pale buff in the centre found many admirers. Laxton's Pink Delight, which made such a charming little bed at the Chelsea Show, did not receive an award, but we liked the medium-sized single flowers of soft pink colour. There were several huge trusses of an unnamed climbing Polyantha, but the trusses were too lumpy and the paper white colour too stained to please many. William F. Dreer, a new American Rose, does not appear to be at home in our climate, though the orange-apricot centre and pale gold was very pretty.

The classes for Roses of recent introduction are usually rather disappointing to the amateur who wishes to make sure of the merits of a new variety before buying it. Few of the gold medal Roses which one enthuses over when they are first shown appear at the shows for some time. This is probably because the raisers are too busy propagating sufficient stock to meet the large demand that always arises for the newest and best. The exception at Regent's Park was in the class for two baskets of Roses not yet in commerce, and here Alex. Dickson and Sons had most gorgeous baskets of Lady Inchquin, which was so greatly admired when it received a certificate of merit at last year's Summer Rose Show. The glowing scarlet-cerise colour was even more dazzlingly beautiful this year. The other basket was of this year's gold medal Betty Uprichard. In this same class was the basket of Mrs. Henry Bowles which won the certificate of merit.

The Kilbee Stuart Cup, offered for twelve blooms of new varieties distributed since 1917, did not contain any Roses of really outstanding merit. The best were Mrs. Elisha Hicks, E. Godfrey Brown, Mrs. H. R. Darlington, T. K. Pinkerton, W. A. Lindsay, J. G. Glassford and Mrs. Henry Morse. But Mrs. Elisha Hicks and Mrs. Henry Morse were to be seen in much better condition in many other exhibits.

THE GARDEN OF THE TIRED MAN

Suggestions from the Greek Royal Palace

WE have all kinds and varieties of gardens, but too many "fad" ones and too few of the good old-fashioned type. It is far easier to-day to break away from the traditional garden than to return to it, and the gardener who is an artist inside, though his hands be all knuckles, could give us the solution to the problem asked by the writer of "The Evening Garden and the Tired Man" (page 260). There should be a fascinating possibility for success or depressing failure in this garden, which could be full of effectiveness or deadly dull. I have pictured the villa of this "tired man" being attractively painted white, relieved with Ivy, showing in charming glimpses from a distance through its environment of trees and shrubbery. It will also afford a pleasant picture when the eaves have fallen, for the bare boughs will tend to soften the wintry aspect. And likewise the garden ornaments, seats, &c., are painted white in this evening garden. At present, however, its architecture and decorations, in which are embodied his own personality, are partially hidden. Probably thinking he would have to live a lifetime with the results, he has not been afraid to use original ideas in arrangement. It is not a formal garden, but a picture in the landscape, simple in design, attractive and containing flowers that would blossom the season through. There are no intruding marble busts or fragments; nothing that is ornate. And so the garden grows. He planted generously of the old, reliable, everyday things which will still be growing when his grandchildren are "playing house" under their sheltering lower boughs. In the centre of the lawn is a small pond simply planted around its irregular edge with Saxifraga peltata and Myosotis palustris. A visitor in any garden will as certainly gravitate to a pool or fountain edge, even if no larger than a mirror, as a Sunflower will face the sun. This small pond relieves and changes the whole aspect of the garden, and as it is so small the water surface is kept clear, with these low-growing subjects planted around the edge. The lawn is separated from the road by a handsome coniferous hedge, Thuya gigantea, truly an heavenly choice. Thus privacy is secured. The pergola, although small, occupies a position to the front of the villa and along the side of the lawn, and is covered with Banksian Roses, Wistaria, Clematis, Jasmines and Honeysuckles. This pergola is not merely a decorative one. It is of practical as well as æsthetic value, often serving as a modified outdoor living-room. The garden that lures by the subtle power of perfume has a charm not always possessed by one whose appeal is only to the eye, and yet this evening garden is essentially a sweet-smelling one, and therefore flowers whose claim to beauty rests upon the fragrance that surrounds them have been selected. It is an old-time garden, fragrant with Valerian, Rosemary, scented Geraniums and Mignonette. Lemon Verbena suffers not in scent, even though it be termed Aloysia citriodora. A turn here reveals a mass of Heliotrope, treasured on account of its Vanilla-like perfume. Another, Sweet Rocket, edged with Clove Pinks, with Pæonies glowing against a background of Snowball tree. As a framework to these pictures Pear and Apple blossom-laden branches arch themselves over the pathway. Here and there a bush of Lilac and Mock Orange and, in the falling dusk, the Flowering Currant fades away, and indistinct, but making its presence felt, is a little Calycanthus. Some old Damask Roses revealed here are prized above the choicest hybrid. The fragrant Alyssum is always in bloom, and the blossoms are so fine and delicate that it makes a pleasing contrast with the more solid blooms of others. And indiscriminately placed are Sweet Basil, Fennel, Thyme, Sage, Cicely and Fern, contributing their share in the deepening perfume as the dusk approaches. Plants whose blossoms are white have been selected, for in the evening while still light and at times bathed in the western sun, they stand out boldly and never flash. Yellow colours are also preferred, for they, under the influence of this light, are so tempered with white that the effect is creamy in tone, their insistent qualities are now minimised, and they also possess a merit of radiating light. Interspersed among dark-foliaged plants for contrast, subjects of neutral grey or light tints are bright and restfully cheerful. Look at this Cerastium whose leaves gleam now like softly shining stars! There is a nice adjustment in this evening garden, a harmony and adaptation, as no part of it is a "feature." There are a few things which Mother Nature has done so well at the beginning that man has reverently kept his hands off. Here hidden charm is revealed in the Night-scented Stock, possessing no queenly beauty to recommend it by day, pervades with powerful perfume the whole surrounding atmosphere. Modest, without show or pretension, it is difficult to believe that a flower of so insignificant appearance could shed so pleasing a perfume. Our "tired man" leaves the city, whose gaunt realities of stone and steel and ugliness are being hidden by fast approaching dusk, to meet the greater realities come into their own in beauty of outline caused by the much finer dusk of the country. Now colours are as one. Where by day a sea of white Phlox, lies now a purple bank, a purple lawn, a purpling path and along the fence the darkening shrubs. A purple awning seems to clothe the trees. The cry of a tortured gear as his car mounts the hill. The gate clicks. In the garden shape is gone, colour is gone, alone perfume remains, and he halts here and there to gather a bouquet—a spiritual bouquet. Late, but home and rest!

Royal Palace Gardens, Athens. L. W. YOUNG.

IN PRAISE OF DUTCH IRISES

A Choice Dozen and an Outdoors Selection

READERS may remember that in the months of October and November of last year there was some interesting correspondence in the pages of THE GARDEN about those strains of early-flowering Xiphium Irises which we are now getting to know under the omnibus name of "Dutch." Two collections which were so kindly and generously sent me have been wintered and flowered, so perhaps it may be of some practical interest if I return to the subject and send a few notes on what I may call my ideas about them, brought up to date They have done so much to relieve the long monotony of a rest cure in bed. Daily from May 21 until June 7 fresh varieties were brought to my bedside, and it is almost needless to say that their coming constituted the chief event of the day. "Experience is a dear school." Never before have I realised the pleasure that the companionship of flowers in a sick room is capable of giving. They are such excellent company and do so much to shorten the time. Thus it comes to pass that my judgments are based on the flowers alone as I have not been able to see the plants as they are in the garden, and this I very much regret. Again, although no one has been more thankful than I have been on general grounds for the mildness of the past winter, I have to confess that I would have liked Jack Frost to have paid us one of his old-fashioned visits, if only he had confined it to the long bed where these Irises are growing. As it is I am unable to say anything about the respective hardiness of the different varieties. Only one of the 110 which I grew failed to flower or looked in any way sorry for itself. This was Van Huyson. As this is the solitary exception it is quite on the cards that the trouble was connected with the bulbs themselves.

The Two Strains.—Although the parentage of the two strains is not the same, and although one is partly a derivative of the other, for garden purposes the two may well be classed in one group, thereby avoiding the confusion that must otherwise arise from calling what is practically the same thing by two names. According to the trial which has just taken place they cannot be separated by their period of flowering, by the size of their blooms, or by their colours. Judging by their general appearance they cannot be separated. Hence it will be convenient and useful if both strains are grouped under the title of Dutch Irises.

A Word of Praise.—A friend who saw the trial bed and some of the cut flowers that happened to be indoors at the time of his visit said to me: "Spanish Irises will have to take a back seat." This is too sweeping an assertion altogether. Although the Dutch have on the whole larger and more imposing blooms, their season of flowering does not go on for ever, and we cannot do without the lighter looking and later blooming Spanish. As I have already said, freshly opened Dutch varieties were brought in from May 21 until June 7, then on the 8th the first two Spanish appeared, thus the two types run one into the other. So it is abundantly clear that there is room for both in our gardens and that to be without either the one or the other is to be without one of the most useful and effective bulbs of late spring or early summer. The Dutch are, as far as my experience goes, much easier to flower under glass than the Spanish. I had ten or a dozen good-sized pots of different varieties, some of home-grown bulbs, and there was hardly a failure when, after having been slowly brought on in a cool house, they came into bloom in the early half of April.

Selections.—The following are a splendid twelve. They are not quite the pick of the two collections, as some varieties are under numbers only, but are a sort of *proxime accessit*, with these excluded. Voerman, a truly glorious white self; to me it is quite in a class by itself. Apol, pale lilac and white; it may be described as an improved and early Flora, which is one of the very best of the Spanish varieties. Van Everdingen, white standards, just tinted with pale mauve and rich yellow falls. Poggenbeeck, deep blue, almost a self. There are several grand blues, but taking one thing with another, I put this down as the premier variety. Jan Both, white and lemon. Hutchenburg, palest lilac standards with rich yellow and orange falls. J. Weissenbruch: In my opinion a most taking shade of pale mauve, not at all common among these Irises; practically a self. Van der Helst, a beautiful shade of rich yellow; it will take a good one to beat it, but I have not seen Golden Glory. Cornelis Troost, white and primrose. Therese Schwartze, lilac

and white; this features the Spanish type. Hart Nibbrig, deep blue standards with pale blue falls A. van Weel, coppery purple and bronze. Although there are several good coppery or bronze toned varieties among the Spanish, such as Hercules, Prince Henry, Reconnaissance and Thunderbolt, this is the only Dutch variety of this character. It opened on May 26, whereas Hercules —the earliest of the Spanish—did not come in until June 8.

A Garden Selection.—The following six are some that my gardener considers particularly effective out of doors: Apol, already described; Rachel Ruysch, pale mauve standards, white falls with a large orange blob; Van der Helst, already described; Seeghers, almost white standards with large yellow falls; Van Gooyen, blue, the standards much darker than the falls; Hackaert, blue, with a large orange blob on the falls, effective in the distance. JOSEPH JACOB.

THE LURE OF THE HEATHLAND

THOSE who from their earliest days have lived upon or near a stretch of wild moorland acquire a love for it that never wanes and that only grows stronger as the years advance. For beautiful and gracious as is a pastoral country, with its comforting assurance of well-being, in prosperous farmstead, rich grazing ground and wealth of standing corn, the sentiment of the wild Heathland, though one knows it to be almost barren of productive value, has its own precious quality and character as a place of untouched Nature. Everything that grows upon it is there of its own accord and has been there from all time—no human hand has sown it or torn its surface with plough or harrow. Some poor commoner may, here and there, have pared the surface for fuel for his wide 'down' hearth, but in a year or two the sandy soil is again clothed with a fresh young growth of Heather. In some places the ground is quite open; it may be for some hundreds of acres, with no covering but Heath and dwarf Gorse and short, sparse Bracken; then it goes down to a lower level, a hollow place with boggy ground and shallow pools and deep beds of Sphagnum moss, and such delights as Sundew, Bog Asphodel and Cotton-grass, and further on there is a tiny tinkling stream, with fringes of Hard Fern and Lady Fern and water Forget-me-not. Again, there is hilly ground, some thickly clothed with Scotch Pine and some with a mixed wild growth of Holly, Juniper, Thorn, Birch and stunted Oaks. The Oaks love the richer soil of the Weald, and though they are abundant on the sand, they are never large trees. The Thorns and Hollies grow together in natural brakes and are laced and garlanded with wild Rose and Honeysuckle. Often the Honeysuckle will rush up a Holly and form a great crown of its sweet blossom at the very top. Then there comes a little valley, again with Junipers and Thorns and many bushes of Spindle Tree—a place that seems remote from all human turmoil, where those whose minds are closely linked with what is best and purest in Nature feel the deepest worship and thankfulness—places where surely fairies must come and dance at night!

There are no better natural scents than those of the Heathland—the warm scented breath of the Pines, the incense of the early Larch foliage, the delicious sweetness of the young leafing Birch and breadths of Whortleberry in early green: the slight, but always wholesome smell of the whole Heathery surface. Then there are the wild flowers that come in such places; the pretty little Jasione, a tiny little grey-blue Scabious only a few inches high and bold tufts of Wood Germander (*Teucrium Scorodonia*) equally at home in the open or under the edges of the Pine wood. Where the ground rises and there are grassy places there will be the sweet wild Thyme, the Heath Bedstraw and the charming little yellow Tormentil. The grass is for the most part the wiry Aira flexuosa, standing up in tufts where it has space to develop its natural character, but fining down to a close sward where it has become the flooring of some little natural pathway. G. J.

A HEATHLAND STREAM.

The Why, When and How of Potato Spraying

WHY go to the trouble of spraying Potatoes when there is not the slightest sign of disease among them? That question has been asked many times, and it is generally asked in such a tone and manner as to imply not that the querist seeks information, but that he is presenting an unanswerable poser that makes the advocate of spraying look ridiculous.

As a matter of fact, the man who asks this question shows that he does really need information, for the truth is it is very little, if indeed any use at all, to spray Potatoes when the disease has revealed its presence. The sceptic is frequently sceptical only because he dislikes taking trouble, and because he prefers not to mess about with chemical mixtures and spraying machines. He dismisses the whole idea with the glib statement that one "does not need to cure a disease that is not there." The truth is that you cannot cure the Potato disease when it is there. What you can do, by means of timely spraying with a well balanced fluid applied with the aid of an efficient machine, is to render it difficult and well nigh impossible for the disease to establish itself. Before we can hope to make spraying successful and beneficial we should learn something about the disease we are dealing with. We can do almost anything better and with a greater prospect of success if we understand *why* we have it to do; indeed, in the case of spraying for Potato disease there is but little hope for its success until some knowledge on this point has been gained.

By "the Potato disease" we refer, of course, to Phytophthora infestans, although this is not the only malady to which the tuber falls victim. It is a fungus, the mycelium of which works its way between the tissues of the leaves, preventing the circulation of sap and choking the respiration through the pores of the leaf. From the mycelium are thrust outward to the surface of the leaf tiny stems, scientifically termed conidiophores, and it is these conidiophores that form the dark blotches on the leaves which show us that the Potatoes are diseased. The next development is the production of conidia or tiny pustules on the conidiophores, and when the conidia are ripened zoopores or spores burst from them which are able, under favourable conditions, to reproduce the species. The spores are capable of lying dormant in the soil from one season to another, and when on a dry surface may be blown about in the wind. Thus are they carried to the foliage of healthy Potatoes, where they rest until a requisite degree of moisture combined with warmth facilitates their development. Then germ tubes are thrown out which penetrate the outer skin or covering of the leaf, thus giving access to the tissues, where fresh mycelium then begins to spread, eventually reaching the stems and through them the tubers.

With these facts before us it will become apparent that when we observe the discoloured blotches on the foliage it is too late to do battle with the fungus, for anything that could reach and destroy the mycelium would also destroy the foliage and

stems. It is before the zoopores which rest on the surface of the foliage have an opportunity to gain a foothold in the tissues that we may compass their destruction. Copper sulphate in combination with lime (forming Bordeaux mixture) or with ordinary washing soda (forming Burgundy mixture) finely sprayed over the entire surface, under as well as upper, of the foliage will destroy the undeveloped zoopores immediately contact is effected. Hence the importance of spraying at the right time.

A SPRAY IN TIME—TWO OR THREE SPRAYS!—SAVES THE CROP AND MAY PROVIDE A BUMPER.

The spores are carried in the atmosphere during the month of July, and the first spraying should take place during the first week or so of that month. If heavy rain follows quickly it is advisable to spray again within a week, and in any case a second spraying will be prudent by the middle of the month. Should the district be prone to disease, or should moist, sultry weather be prevalent it may be necessary even to spray a third time towards the end of July, mainly to ensure covering the young growths that extend beyond the parts covered by the previous spraying, but in a dry season and where healthy seed has been planted on ground that has not grown diseased Potatoes in previous seasons a couple of sprayings will suffice.

It is of extreme importance that the Bordeaux or Burgundy mixture shall be prepared to a fine degree of accuracy, otherwise the whole operation is foredoomed to failure. For this reason I strongly recommend the amateur to purchase one of the proprietary brands of ready-mixed chemicals that simply require dilution with water. It is a simple matter to give recipes, and maybe it is equally simple to mix the ingredients at home, but it is at best a messy job, demanding the use of wooden tubs or earthenware pans. It is not so easy to ensure, even when the chemicals are carefully weighed, that a perfect balance will be secured, for copper sulphate may vary in purity, and the actual strength of lime depends largely upon its age and the conditions under which it has been kept. Manufacturing chemists of experience and reputation have every means of ensuring the exact balance required. By carefully following their instructions regarding dilution of their preparations one may set to work with confidence that the spray is all right.

The pattern and size of the spraying machine should be governed by the quantity of Potatoes grown. For moderate areas a knapsack, fitted with a fine twin-nozzle jet will be found adequate. For smaller plots one of the pneumatic hand sprayers will suffice, but I do not like a syringe for Potato spraying, because it is difficult to ensure a perfectly even distribution that will leave no patches of the Potato haulm untouched.

For field work of course, a wheeled machine, either horse-drawn or hand-drawn is advisable, but where such machines are to be used I deem it advisable to leave double spaces at convenient intervals to allow of the passage of the machine between the rows without danger of damaging the haulm.

It must ever be borne in mind that every particle of leaf underneath as well as above must be coated with the finely diffused spray, and this can be assured by using a machine with a powerful pump, and a spraying jet with fine bore, and a nozzle that can be turned to any angle.

There is a wide choice of such machines on the market, and bearing in mind that a good spraying machine can be used both in summer and winter among fruit trees, Roses and other subjects, and also for lime-washing greenhouse walls, outhouses, stables or poultry houses, the price of a sound machine is a good investment. A. J. MACSELF.

Gardening of the Week

FOR SOUTHERN GARDENS.

The Flower Garden.

Begonias, during dry spells, should receive copious watering towards evening after the sun has spent itself. Begonias are not deep-rooting plants and soon feel the effects of drought. As an aid to the plants' further growth and flowering, a mulching of decayed leaf-soil and old Mushroom manure should be worked carefully in among the plants.

Pinks now may be readily increased by means of cuttings or pipings taken and inserted in light sandy soil in a cold frame which should be kept fairly close and shaded until the cuttings are rooted, afterwards removing the lights entirely.

Violas have felt the long hot spell somewhat considerably, and if required to prolong their flowering must be kept clear of dead flowers and be well watered and mulched. Cuttings may be taken now to furnish plants for spring bedding, and if dibbled closely together in a cold frame for rooting should afterwards be planted out in nursery garden to develop.

The Kitchen Garden.

Shallots, having finished their growth, must be pulled up and spread out on trellis or a dry pathway to thoroughly ripen. In the event of unsettled weather they should be removed to frames where an abundance of air may be given but rains kept off.

Cucumbers for autumn fruiting may now be sown and a further sowing in a few weeks' time should be made for winter fruiting. Established plants in house or frame are greatly benefited by regular top-dressings of a light rich character. Keep an abundance of atmospheric moisture during hot days and see that the roots are also well supplied with water.

Endive.—Although not greatly in demand while Lettuce is plentiful, a small sowing should now be made and another one a little later.

The Hardy Fruit Garden.

General Work.—If Raspberry nets are not in position they should be seen to at once, taking care to previously rid the bed of any weeds or unnecessary suckers. Where Strawberries are grown on cool borders to furnish late supplies and prolong the season, place straw between the plants as advised in an earlier issue for main batch, and also net them; if roots are dry and it is possible to give thorough watering so much the better. Any final thinning of stone fruits still to be done must be quickly finished now and the regulating and training of the growths continued as required. Newly planted trees on light soils must be kept well watered, and where a good syringing can be given in the cool of the evening it is a great help.

Fruit Under Glass.

Early Muscats have had ideal sunshine and light during the past weeks and should ripen well, developing the glorious amber tint so much prized in this excellent Grape. Although it is absolutely essential for white Grapes to receive abundance of light and sunshine, it is sometimes advisable, in the case of old Vines or where the rods are trained too close to the roof, to give some slight protection from a long spell of hot sun. When this is done by a spray it should be so mixed that a storm of rain will remove it, for continuous and regular shade is not required. A piece of old fish netting thrown over the glass is a simple way of giving just enough shade to prevent foliage or berries burning.

Plants Under Glass.

Tritonias.—When flowering is over the pots may be placed in a cold, open frame, but continue to water until the foliage ripens, giving weak manure water alternately with clear water to plump up the bulbs.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Early planted lots will now be well forward and will benefit much if given an occasional watering of liquid manure from the byre. Main crop trenches should also be well watered during dry weather so that quick and regular growth may be obtained, thus ensuring crisp, well flavoured heads. Earth up early lots gradually, as required.

Radishes.—Grow in a cool place so that toughness in the root may be avoided. Regular sowings made in frames which are slightly shaded during the hottest part of the day and watered regularly should produce desirable roots.

Cauliflowers.—The final planting should be made so that there is no lack of this important crop during the autumn months. Attend also to the working and drilling up of mid-season crops. Should maggots of the Cabbage fly appear, give the plants a drenching with soot water. This we find generally effective in preventing the pest spreading.

Carrots.—In gardens fortunate in the possession of nice early borders the early Potato crop will now have been cleared off, so a sowing of the stump-rooted variety of Carrot may be made. Nice sound little Carrots may be had from this crop which considerably augment main crop supplies. These late sown Carrots are noticeable for their fine flavour.

Globe Artichokes.—Where these are bearing well a good mulching of well rotted material may

be placed round the roots and so prolong the cropping propensities of the plants. This treatment also lessens evaporation.

Tomatoes are now carrying heavy crops, so must be assisted at regular intervals by copious supplies of liquid manure, varied with a dusting of artificial. Where the plants are at close quarters the points of the leaves may be pinched off and thus allow more sun and air to play on the fruit. Authorities differ on the point of defoliating, but if the work is not carried to extremes the fruit colours more quickly and richly, while if too severely denuded, root action is checked with resultant injury to the crop.

The Hardy Fruit Garden.

Strawberries.—Where strong plants are wanted for forcing no time should be lost in having the necessary quantity layered. Use 2½in. pots, sinking them level with the ground. After root action commences, pinch out the growing points beyond the pots containing the layer, while if dry weather should intervene watering must be done as the small pots dry up readily.

Summer Pruning of Fruit Trees.—Unfortunately the changed conditions in many establishments has been the cause of this important work being dropped, but there is no doubt whatever that by the timely removal of surplus shoots the fruit gets a much better chance to swell and ripen. It also assists in maturing the spurs and wood left for future crops. Much can be done by summer pruning in the formation of newly planted trees; by the judicious removal of superfluous growths and the wise stopping of shoots that are left.

The Flower Garden.

Summer Flowering Chrysanthemums should be attended to in the way of staking and tying, afterwards hoeing between the plants. Nothing tends more towards active growth than the regular use of the hoe.

Roses.—Attend to the removal of all suckers immediately they are noticed so that the plants may not be unnecessarily weakened. It is noticeable that many of the Hybrid Teas have suffered more severely than was first thought at the pruning period, owing probably to the want of good ripening weather last autumn, while some of the growths were fresh and green they evidently did not have vitality to start with their usual vigour. Hybrid Perpetuals, however, and the more hardy types of Hybrid Teas are looking well and give promise of a fine display. Standard Roses should be looked over to see that all stakes are secure before the high winds come along, which we encounter occasionally during the late summer. The heavy Weeping varieties are particularly liable to sustain damage. One of our most delightful varieties among early-flowering Wichuraiana standards is Elisa Robichon. It is covered with attractive little flowers of salmon-buff, set off by glossy green foliage. This sort has proved for years one of the hardiest, coming through the most severe winters unscathed.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

FORTHCOMING EVENTS.

July 11.—United Horticultural Benefit and Provident Society's Meeting.

July 11.—Bath Gardeners' Debating Society's Meeting.

July 12.—National Sweet Pea Society's Meeting, to be held at Vincent Square, Westminster (two days).

July 13.—National Rose Society's Provincial Exhibition, to be held at Ipswich.

July 13.—Wolverhampton Floral Fête (two days).

July 13.—East Anglian Horticultural Society's Meeting.

July 13.—Richmond Horticultural Society's Annual Show.

July 13.—National Viola and Pansy Society's Annual Exhibition (two days).

July 16.—Elstree and District Horticultural Society's Floral Fête.

July 16.—National Co-operative Union's Flower and Vegetable Show, to be held at the Crystal Palace.

Hardy Geraniums for the Wild Garden, Woodland and Border.—III

A FEW members of the family have tuberous roots somewhat after the fashion of those of Anemones and, like many of that family, they have a distinct resting period, in which all foliage dies off and the plant consists only of dormant tubers of varying shapes and sizes. These have not yet gained the favour they deserve in many gardens, and might be found very pleasing plants for providing a carpet of leaves of delicate tracery, especially among deciduous shrubs or the taller and later flowering herbaceous plants. Geranium tuberosum, the subject of the drawing, comes from the Mediterranean region, but is perfectly hardy in any well drained ground in England. The grey green of its finely cut leaves is very charming as an undergrowth for Darwin Tulips, and the flowers of this Crane's-bill are of such a soft shade of rosy mauve that they go well with any but the scarlet and salmon Tulips. Of course in such a combination the Tulips must be planted sparsely, not in clumps or masses. I have a belief that if a single bulb of a Tulip is planted rather deeper than is usual, say, 8ins. at least, it may be left undisturbed for a longer period than those planted at a shallower depth. Certainly it will not increase so fast and its offsets may not crowd and weaken one another for six or more years. It is not therefore advisable with precious varieties one wishes to grow on into large stocks; but, on the other hand, I have noticed that these deeply planted and little disturbed Tulips seldom, if ever, show any sign of breaking. A yard square carpet of Geranium tuberosum with two or three flowering stems of Tulips rising out of it here and there makes

GERANIUM TUBEROSUM, A SOFT SHADE OF ROSY MAUVE.

a very enjoyable picture on a May day between late-flowering shrubs at that season scarcely clad with their leaves, such as Hibiscus syriacus.

A coarser plant, with much larger leaves and flowers, and a very "spreadaceous" habit, as someone expressively termed it, is to be found in G. malvæflorum, from Spain and the northern coast of Africa. There are two forms to be found in gardens, one much larger than the other, and the lesser has long borne the name of G. atlanticum, and is most likely the Algerian form, and should grow on Mount Atlas; but it seems best to regard them as varieties of one species. Both throw up tall branching flower-stems in May from carpets of very handsome finely divided leaves. The flowers are as large as a half-crown, and vary a good deal according to their age from bluish purple to a rosy mauve, well veined with a deeper shade.

The leaves generally appear with the autumn rains, and even if neither of them flowered both forms would be worth growing for the leaves alone.

Geranium Pylzowianum was only introduced to British gardens in 1915, when the late Mr. Reginald Farrer sent home seeds collected in Northern China. It is classed by Knuth in his Section 15, Sanguinea, but it has so much the habit of these last-mentioned species that it seems to be a nearer relation of them than of G. sanguineum. The outline of its finely divided leaves is very beautiful, and they are of a singularly lively, pale green even when matured, and a carpet of them is delightfully fresh and cheerful. Then from mid-May onward for many weeks the slender flower-stems, bent at their joints into sharp angles, bear wonderfully large flowers of a vivid rose colour. In half-shade the flowers are larger than in very sunny quarters, and their colour is purer and softer. It is one of the easiest of plants to grow and a fast spreader, and should before long be in every good garden. But do not plant it among small alpine plants, as I did at first, lest it should smother them with its foliage. Every atom of broken tuber seems capable of rooting and growing, and it is not an easy job to eradicate it from any place one cannot dig up and treat with as thorough and searching a sifting as would be needful for Lesser Celandine.

G. sanguineum in its many varieties dies down to a tuberous root-stock, but it is always a branching mass that must be broken if division is necessary, and so unlike these truly tuberous species, in which each joint of the rhizome separates into a complete tuber. A bed planted with the typical Bloody Crane's-bill of rather too vividly crimson flowers would not be pleasing to those who dislike magenta, but I should like to see a judicious mixture of the type with the soft salmon pink form from Walney Island, G. lancastriense, and a bold mass here and there of the strong-growing pure white form. I saw a very fine mass of this in a garden last week and learnt a good hint from the way it had been supported by short twiggy stakes placed among the clumps in early spring, so that the usually rather straggling growths had grown through them and formed a compact mound covered with flowers. E. A. BOWLES.

GERANIUM PYLZOWIANUM: LARGE FLOWERS OF A VIVID ROSE COLOUR.

How to Grow Celery with Success

THERE are many points in the successful growth of Celery which must be carefully noted and attended to from time to time as growth develops. One of the most important to see to first is the quality and strength of the plants we have to plant out. They should be stocky, sturdy, well rooted, healthy plants, 6ins. or 7ins. high, with a good-sized ball of earth attached to their roots.

Another point to observe (especially for the novice and beginner) is not to attempt to grow a larger number than there is convenience for or time to look after. The Celery crop must not be neglected, or disappointment is sure to follow.

Soil.—A deep, light, loamy soil suits the growth of this plant the best. But it will succeed admirably in any well cultivated garden soil provided the necessary high culture and liberal dressings of manure are forthcoming. It may be grown in trenches of single rows or of a larger number as desired. If a moderate quantity for home consumption only is desired, I think single rows are to be preferred. Where more than one row is required the trenches for each row should be 4½ft. apart, measuring from centre to centre of each trench. The trenches should be 9ins. deep (the bottom of the trench being dug after excavation to the depth of a foot). Place a layer 6ins. deep of well rotted farm or stable yard manure on the top of the dry soil in the trench, digging the same in 6ins. deep, mixing the two well together. We shall then have a rich body of soil to the depth of 12ins., in which the plants will luxuriate.

Planting.—If you have to purchase your plants and they are at all withered on arrival, give them a good soaking of water and let them stand for 12 hours before planting. Examine each plant carefully to see that it is not infested with what is termed the Celery fly or leaf miner (Tephritis onopordinis). If it is, do not plant, or it will cause you infinite trouble, and probably end in the ruin of your crop. Better throw away the imported plants and start with a fresh stock. At the base of the young plants you will find a few short, stubby leaves, and also sometimes a sort of side shoot. Let such be removed before planting. Plant deep enough to bury the exposed part of the stem caused by this stripping of the leaves. Press the soil firmly round the roots with the hands, finishing by treading the soil well down in the trench, at the same time giving a good soaking of water. Shade for a week against hot sunshine.

After Culture.—Above all things, it is necessary to remember that the plant is a semi-aquatic, and must not be permitted to suffer from the want of water at the root or overhead when opportunity offers. Hoe the ground round the plants as frequently as time will allow. This if persevered with during hot weather will be found a most useful adjunct to the watering pot. Should the weather prove hot and dry for long, apply a mulch of manure over the surface of the soil. This will be found useful in preventing evaporation of moisture from the soil, as well as in nourishing the roots of the plants, besides considerably lightening the labour of watering. Slugs and many grubs are fond of attacking Celery while growing. To prevent this scatter soot occasionally among the foliage when it is damp after watering. The plants should now be growing freely and strong, and will be greatly benefited by an occasional watering of liquid manure. The plant is a voluptuous feeder.

Earthing Up.—Towards the end of the summer the first earthing up should take place. Before starting on the work it is necessary to pull away a few of the bottom leaves and also any side growth which may have formed, and to give a heavy watering (with manure water if possible). In earthing up do not raise the soil so high that it will obscure the heart or centre of the plant at any time. A depth of about 3ins. of soil will be enough to apply at this time, not forgetting to scatter soot among the foliage. Soot is a useful manure when washed to the roots and an antidote to vermin by its caustic properties. By the

end of October the plants will have ceased growing and the earthing up process come to a close. Protect in winter from heavy rains and hard frosts. There is nothing better to use for this purpose than home-made wattled straw hurdles. They are easily removed and easily replaced.

Blanching the Plants with Paper Collars.—This is a clean and effective way of blanching the plants, and is now practised by a large number of cultivators. For my part I prefer Celery blanched by Mother Earth. It is crisper and sweeter flavoured blanched in this way, at least I think so. Paper collars are easily made and easily applied. Brown paper of fair texture is the best to use. Cut into longish strips 5ins. wide and bind round the plants in puttee fashion.

Varieties to Grow.—For red varieties Standard Bearer and Major Clarke are, I consider, the best and most satisfactory from all points. Sandringham is a good old white sort of fine quality but rather small It has been ousted by Invincible, white, fine for exhibition purposes as well as for general use. In pink varieties Aldenham Pink is excellent. OWEN THOMAS, V.M.H.

CORRESPONDENCE

SILVER-LEAF AND A SUGGESTED REMEDY.

MR. GARNER'S letter in last week's issue is very interesting, and it is difficult to suppose that all those to whom the Peach shoots were shown mistook false for true silver-leaf, and therefore (if the leaves sent were cut from a part that actually showed the silver-leaf last year) we have a case of recovery. Cases of recovery are not unknown, although they are certainly very rare indeed, but they occur at times without any remedial treatment whatever. It is difficult to believe that the treatment meted out to the tree has cured it, for silver-leaf is seen badly in dry and moist seasons, in soils rich in nitrogen and poor in it, in soils devoid of lime and in well limed soils. Did the stem show a brown stain when cut across? Did a piece of stem cut away stain the water brown? Did the leaf under the microscope show the epidermis separated from the underlying tissue? These are the only indubitable signs of silver-leaf, and a tree suffering from true silver-leaf shows all of them.—A. YELSIWITE.

VICTORIA PLUMS AND SILVER-LEAF.

I SYMPATHISE with your correspondent, Mr. E. T. Armstrong (page 322). I, too, am in the same case. I have five out of fifteen fine Victoria bush trees in hospital with this dread disease, in spite of careful spraying and good cultivation. Whether my drastic surgery will effect a cure remains to be seen. Mr. Armstrong enquires as to Pond's Seedling. If my experience is any criterion I should avoid this variety. Two fine fifteen year old standards here were infected and quickly died, though loaded with fruit last year and in 1919. Two bushes of the same variety are also infected, as are two fine bushes of Bryanston Gage. Pershore I have no experience of. The varieties named, out of twenty sorts or more, are the only ones, so far, I have had trouble with. Anent Roses—I note that Mr. Bartlett (page 316) attributes his trouble to Dutch trees. I planted a 92ft. row of new Roses in my trial bed, all from well known English growers, and only two bushes survive! They went through the winter well, and in February made the growth one would expect in April, but the frost and bitter wind of April 16 cut them to pieces, with the foregoing result.—F.R.H.S., *Berks*.

PINK ANNE BOLEYN.

ABOUT fifty years ago this fine old Pink was in every garden where the owners had the good taste to prize the really good things. It would greatly interest me to know if any reader of THE GARDEN has this old Pink in the right form. It does not seem to be in trade, but may possibly be in some private gardens. It was of large size; fully double, though not obese; in colour a cool pink with dark centre, though the centre was a good deal obscured by the fulness of the flower. About one bloom in four would have a burst calyx. It had the great merit of a very sweet scent. In these days of dear postage it seems hardly right to ask for specimens, but if any should reach me, in the hope of the true plant coming to light, they would be gratefully received.—GERTRUDE JEKYLL, *Munstead Wood, Godalming*.

IN PRAISE OF DISCOLOR.

RHODODENDRON DISCOLOR has stood the test of over twenty years of cultivation and received the recognition it deserved at the Royal Horticultural Society's meeting at Vincent Square on June 21, when it was given an award of merit. It was introduced by Wilson about 1900, and the descriptions hitherto given of it need some slight revision. Bean, in his "Trees and Shrubs Hardy in the British Isles," calls it a shrub 4ft. to 6ft. high. Judging from the growth it has made, and is making at Tunbridge Wells, 14ft. to 16ft. is nearer the mark, and there is apparently no reason for thinking it will not go much higher than this. Then again it is described as white, sometimes blush tinted. It is safer to say that pot-grown under protection it loses its colour, and comes white with the faintest of blush tints at the base of the corolla. In the open the flowers are quite deeply tinted blush, indeed, in its early stages it nearly approaches a pale pink. The corolla is funnel shaped with the outer edges slightly reflexed and with a suggestion of fimbriation. The foliage is rich dark green on the upper surface, lighter green below, with a leaf stalk of brownish purple. The flowers are delicately fragrant, exuding a subtle balsamic odour that is exceedingly pleasant. The normal period of flowering in this country is early July, and it is therefore valuable from the hybridist's point of view, as it should prove to be the forerunner of a race of late-flowering hybrids that will extend the flowering period of Rhododendrons (hitherto all too short), well into the Rose season. Quite apart from its value in this respect it is a species that will win its way to popularity on its own merits. The single fault noticeable appears to be that it is inclined to get a little "sticky" and bare at the base, a fault that can be easily overcome by arrangement in planting.—GEO. DILLISTONE.

A PRETTY HYBRID MIMULUS.

AMONG the plants whose loss I am regretting owing to removal to another home and garden is Mimulus Burneti. It was safely transplanted, but an unexpected trouble with drains led to a further upheaval, and it has been lost, much to my disappointment. It has long been a favourite with me, as it is neat and pretty and made a good ornament to the margin of a small Water Lily pool, in the moisture of which it seemed to revel. This Mimulus was raised at Aberdeen by the late Dr. Burnet, and is a hybrid between M. luteus and M. cupreus. In colour it is half way between the parents, being of a rather brown red hue, but not dull in its tints. In height it is also about half way, but possibly coming nearer M. cupreus than the taller M. luteus. It is hardy, but, like some of these of the race, it seems to like to find "fresh fields and pastures new" and flourishes better after removal than if left alone. We have found it do wonderfully well in gravelly soil also, but in this medium it requires plenty of water in spring and summer.—S. ARNOTT.

THE OLD GARDEN COLUMBINES.

I THINK there would be many readers of THE GARDEN, like myself, who would appreciate the note on page 312 about the old garden Columbines. There is a certain charm in these—let it be admitted—somewhat out of date sorts which the long spurred varieties do not possess, and, in my judgment, they have too long been kept in the background. This old form (A. vulgaris)

WILL RHODODENDRON DISCOLOR GROW TO SIXTEEN FEET?

is not one whit less beautiful than the long-spurred section, the praises of which are too often sounded to the exclusion of the old garden Columbine which was met with very frequently forty or fifty years ago. As the writer of the note in question has pointed out, these old sorts are varied in colouring, and one may have them in beautiful shades of rose, and red and deep blues and purple, as well as good clear white. I have not found it necessary to sow very often because from division one may get almost any number of plants required. There is, however, an advantage in keeping up the quality of the flowers by attendance to this matter, and every two years should see the clumps divided. The present is a suitable time to raise fresh stocks from seed sown in the open ground or a cold frame. It may be only fancy, but I am inclined to believe these old garden sorts last longer in bloom than the long-spurred —W. LINDERS LEA.

MULLEINS AND POOR SOIL.

I READ with much interest the letter of your accomplished correspondent, "G. J.," on Mulleins. I have for some years grown many sorts of Mulleins in my poor, light soil, where they do splendidly, and I recommend your readers to do likewise, for I am sure they will be pleased. All mine are self-sown, and in this way I have got several new varieties. I have at the present time (June 25) a very fine plant of Verbascum olympicum, a drawing of which I send you. Its height is over 7ft., and the width at the base about 4ft. The side branches spring from the axils of the leaves, the lowest ones from the very base of the plant, each one curving gracefully upwards to 3ft. 6ins. in height. In the same number of THE GARDEN there is an article, and a beautiful drawing, by my friend, Mr. E. A. Bowles, on the merits of Geranium phæum. He does not mention, what he pointed out to me when I went through his beautiful garden with him, that some of the leaves are marked with deep blotches, while others are not; this distinction seems to persist when the plants are grown from seed. Mr. Bowles also introduced me to the American form of Viola biflora; this has distinctly pointed leaves, whereas the ordinary lovely alpine Violet has reniform shaped leaves. Both grow here as pretty weeds.—G. R. JEBB, *Gt. Barr.*

[Our correspondent's beautiful drawing in colours will not reproduce satisfactorily in black and white, and we therefore regret not to be able to publish it.—ED.]

THE HEIGHT OF LONICERA SYRINGANTHA.

IN THE GARDEN, May 7, I wrote of Lonicera syringantha as a rather small, low growing shrub. I should now like to modify that description by adding that I have since then seen it as a wall shrub in a Perthshire garden, and to my surprise it had run up to 8ft. or 10ft. high. As a wall shrub I should always vote it well worth growing for its graceful habit and pretty leaves alone, even if it had no flowers at all. Since writing, I also find that the intensely fragrant Daphne-like pink flowers are followed by bright red berries. In THE GARDEN, May 28, someone signing himself "Devoniensis" wrote of his experience with Lonicera thibetica, and telling how Mr. Farrer gave him Campanula Miranda on his promising not to part with it, and how he kept his promise, and how he did not know where Mr. Farrer had written at the expense of Campanula pusilla Miss Willmott. "Devoniensis" says that comparisons are odious and then promptly makes them. The attack on Campanula Miss Willmott was one of Farrer's most entertaining subtleties. Can "Devoniensis" have missed the passage altogether, or has he read it and missed the point?—CLARENCE ELLIOTT.

AN EFFECTIVE PATH EDGING.

THE accompanying illustration shows what is in my opinion the most attractive method of edging a flower border. Having tried Box, Thrift, Mrs. Sinkin Pinks and various other devices, I venture to think that a broken line of alpines produces the effect upon which the eye can rest with the fullest measure of satisfaction. The "rockies" shown on the left hand of the picture were planted about eighteen months ago; and although the Thymes, Aubrietias, Campanulas, Saxifrages and other vigorous growers are all too ready to overrun the acaulis Gentians, these shy bloomers yet succeed in thrusting their indigo trumpets into the spring sunshine. A few small sandstone rocks are hidden beneath the various clumps, but they merely serve to hold the moisture which all these shallow-rooted plants require. The edge of the rock garden forms the right hand of the illustration, and here the alpines have spread themselves carelessly across the path according to their wont.—R. H.

ROCK PLANTS AS BORDER EDGINGS.

THE CULTIVATION OF ONCOCYCLUS IRISES.

THE last to flower at Cambridge in my time was I. atropurpurea, grown from rhizomes sent home by Captain Thomas from one of the British expeditions. The method adopted was in accordance with Sir Michael Foster's prescription, except that I think the advantage was added of a low back wall, convenient for protection, roasting, and for holding securely the top ends of the panes of glass used for protection from rain. This method in question consists in late planting in order to avoid the early growth that would be injured by severe weather, in keeping the plants and soil absolutely dry after flowering until the foliage is dried up, and finally in taking up the rhizomes and storing in, say, paper bags till the arrival of the next planting time. The better rhizomes produced flowers in a perfectly satisfactory manner but the following year's result I do not know. In this note I am especially desirous to suggest the raising of Oncocyclus Irises from seed. It was Sir Michael Foster's opinion that species of this section might naturally be short lived. I have never raised seedlings myself, but think I may suggest the sowing of seed so early that the whole period of rhizome growth may go to the formation of something substantial for resting the first season. I cannot help recalling the case of Nelumbium speciosum, so easily raised and grown the first season, yet never in this country, within my experience, carried over the first resting period. Britain does not provide the sun that is sufficient to form the first tuber. This I have found evident, for in one of the Ducal gardens of Germany I once found a large house full of second year and older seedling Nelumbiums raised in vessels of various sizes and material. With sun as well as heat there is no difficulty.—R. IRWIN LYNCH, V.M.H.

OUTDOOR TOMATOES.

AS an extensive grower of outdoor Tomatoes in various parts of England, *i.e.*, East Essex, Herts, Hants and the Isle of Wight, over a period of years, and one who has made their culture on a large scale pay (and by "large scale" I mean planting by the thousand not by the dozen), may I give a few points on their outdoor culture that I consider contributed largely to the success I attained. Hardy stocky plants to start with, well hardened and not too large, preparation of the ground by treading and rolling to make a firm and solid medium for planting, choosing the stiffest soil in the garden or on the farm for this purpose, well ramming in the plant at planting, giving plenty of room for growth and limiting fruit production to four trusses. I found by experience that a distance of 18ins. from plant to plant in the rows and the rows from 26ins. to 30ins. apart was none too much, as when doing well Tomato foliage is most luxuriant, and there must be ample room between the rows for watering, stopping and gathering. If outdoor Tomatoes are planted closer than these distances, every third row should be omitted or the difficulties of tending the plants will be enormous. When in the act of planting do not omit to remove the embryo side growth from the axil of the lower leaves that have been taken off to allow of deep planting. If these side shoots are not removed they bother one for the rest of the season by constantly sprouting up from below the surface by the side of the main stem, often forming Cauliflower heads and malformations which extract

nourishment from the plant and are laborious to remove. I have found that even in the South of England and the Isle of Wight that outdoor Tomatoes seldom, unless in very exceptional seasons, mature more than four trusses of fruit. If more than four trusses are left on the plants or the plants are not stopped above the fourth truss, we get at the end of September and October a mass of green fruit that will never colour properly owing to failing sunlight and colder nights. It must be remembered from the very day that outdoor Tomatoes are planted to the end of the season the days are shortening, and each day there is less amount of warm sunshine. Experience taught me that a certain four good well ripened bunches of sound fruit per plant, was worth more than five and a risk; besides, the four trusses will give a finer, better quality of fruit than if you strive for five out of doors. So I always stopped about the fourth, defoliated to about six good leaves for each stem, removed every trace of side growth as it showed, used short (4ft.) stakes, tied in four times, gave three doses of a standard fertiliser during the season, and seldom, even in bad climatic years, did I fail to make them pay. That outdoor Tomatoes are a speculative crop cannot be denied, but with care and thought and being satisfied with a limited but high quality crop, they can be made to pay, and pay well. I have grown and successfully marketed as many as fifteen tons outdoors in one season.—S. WARNER HAGEN.

A NOVEL WAY OF GROWING ASPARAGUS.

I AGREE with "Practical" that neither Mr. Mallender nor anyone else would have advised anyone to prepare an Asparagus bed by putting "everything; in fact, hard wooded waste, such as the prunings of fruit trees," into the trench. The words as they are punctuated have no meaning at all, and I should have thought that "Practical" would have been sharp enough to see that a mistake had in some way been made. They ought to be "everything in fact, but hard wooded waste such as the prunings of fruit trees." I should also like to say that if "Practical" can imagine "anyone being foolish enough to dig a pit of this depth in clay soil . . . without any provision for drainage," I cannot. One has not only to be practical in gardening, but one has also to exercise a little common sense, or very strange things will happen. Might I suggest its necessity to my *unknown* critic?—JOSEPH JACOB.

[Mr. Jacob unfortunately omitted the word "but" in his original communication.—ED.]

CATERPILLARS AND CABBAGES.

I READ with great interest the article on the above subject by Dorothy Pocock in THE GARDEN, June 25, and found it most instructive. Several years ago we were troubled with rabbits and poultry coming into the vegetable plot and doing much damage. I then had made three wire-netting covers to protect them and found them most useful. These covers are 12ft. long, 4ft. broad and 2ft. high; the framework being made in 2-in. quartering, to which is nailed 1in. wire-netting. Since I have begun to use these I have never had such magnificent vegetables. They are quite secure inside the frames against heavy rains, birds, rabbits and poultry; and it did not occur to me until recently how free they were from caterpillars and butterflies. I was asked recently "What the frames were for and were they useful against butterflies?" My eyes were then opened to this great desideratum. I have since extended the principle to seed-beds, on a much smaller scale, with great success.—WALTER SMYTH.

SCHIZANTHUSES FOR THE CONSERVATORY

Many visitors to the Great Show at Chelsea marvelled at the early and glorious display made by this fine annual. The secret was autumn sowing and proper after treatment. By following the advice given below every reader can emulate the example set by our leading seedsmen.

AMONG the many charming and free-flowering annuals that are in favour at the present time for conservatory decoration, none so readily responds to good culture and appears to more advantage than the Schizanthus. When first it attracted attention, there were few who considered it worthy of other treatment than the general one for annuals sown in spring. This was satisfactory until the results came to be compared with those obtained by autumn sowing. It was then seen and generally admitted that the latter was by far the most favourable mode of treatment, as not only does it result in a much earlier display than is possible from a spring sowing, but the plants are much stronger and, consequently, more handsome when in bloom.

Sowing the Seeds.—Under average circumstances this autumn sowing is usually confined to the month of August, the exact date varying with the locality. The seeds should be sown thinly in a shallow box or pan filled with a light mixture of loam, leaf-mould and sand, covering them slightly with fine soil, and, after watering with a fine rose, cover the receptacle with a piece of glass and place it in a cold frame, taking care to shade it from very hot sunshine. As soon as the seedlings are noticed, remove the glass and gradually expose them to the full light and air.

Treatment of Seedlings.—When large enough to handle, pot off singly into 3-in. pots, using a similar compost as before. The cold frame will still be the most suitable place for them, as once they have become established the lights can be removed in favourable weather, thus encouraging the desirable sturdy growth; but when October arrives a frost-proof house is essential, in which, failing a heated pit or frame, there is no better position than a shelf well up to the light in a late vinery. Immediately these small pots are full of roots, the plants should be transferred to 5-in. ones. For this potting a little well decayed manure may be added to the compost with advantage. See that the pots are perfectly clean and well drained, and, in potting, this applies to all stages. Avoid ramming the soil too firm, as these plants appear to do much better when allowed a moderately free root-run. With these plants pinching is not as necessary as it is with spring-sown ones, as they invariably grow naturally bushy; but in cases where a plant appears to be growing too lengthy and lacking in side growths, it is advisable to take out the lead.

Winter Treatment.—Through the winter months growth is naturally slow, and any attempt at forcing would inevitably result in inferior specimens. The cooler the treatment, so long as frost is excluded, the better, a temperature of 45° by night, with a rise in the absence of sun-heat of 5° by day, suiting them admirably, always providing that fresh air is admitted as often as the outside conditions will allow and care is exercised in watering. With the turn of the year and more sunshine, growth will be more rapid, and if the plants have wintered well, they will be ready for a little more rooting space.

The Final Potting.—For this purpose 7-in. pots, well drained, will be suitable. The compost need not differ to any great extent at this stage beyond giving a slight sprinkling of some slow-acting fertiliser. After this potting, the bench in the greenhouse will be the best place for them, and as half the beauty of this plant lies in its being erect, the growths should be carefully looped up to a neat stake. Any pinching that may be necessary can be done as soon as the roots have started in the new soil, and once the pots are filled with these, some weak soot-water and occasional doses of some approved fertiliser will be beneficial.

As Basket Plants.—Schizanthuses are also seen to great advantage in the conservatory when suspended from the roof in hanging baskets. For this purpose use the best-shaped plants out of the 5-in. pots, first lining the basket with moss to retain the soil. Suspend them in the growing house and train the growths evenly over the sides. Owing to the nature of these receptacles, the soil in them dries very rapidly; therefore care should be taken to see that the health of the plants does not suffer for want of water. Among varieties a good strain of the popular S. Wisetonensis is difficult to surpass, as its habit and free-flowering nature leave nothing to be desired. Others include S. Grahamii, rosy lilac and purple; S. retusus, a beautiful shade of scarlet and orange; and S. pinnatus, with spotted flowers of lilac and purple. A carmine variety has also been shown well, and if its habit can be improved upon, it will be a valuable addition to this showy race. F. G. TOWNEND.

Manuring Fruit Trees with Common Sense

MANY fruit trees in the country are suffering a lingering existence for the want of stimulants and common-sense application of such. Year in and year out these trees produce stunted, immature growths, distressing the flower contact to such an extent that the tree has no chance of successful production.

The desire of the Pear cultivator is to obtain a crop of clean, juicy, luscious fruit; but this is quite out of the question should the trees be placed in uncongenial situations, therefore position must be given a prominent consideration, as well as soil influence and manuring.

In the four seasons' courses manuring should be applied directly after the fall of leaf and all cultivation finished by the New Year. This is essential, as the formation of new rootlets commences directly after the leaf falls.

For Pears on the bush, espalier or cordon system the first year's manuring should be a dressing of crushed charcoal and half-inch bones, using on the surrounding area of each tree about 2lb. of bones and 1lb. of crushed charcoal. Fork in lightly, but thoroughly. Second year, a dressing of burnt lime, say, 2lb. to 3lb. on the area of a tree, say, five to eight years of age. Third season, a dusting of flowers of sulphur and about 1½lb. of fish guano. Fork in lightly. Great care must be taken so as not to damage the fibrous roots. Fourth year, basic slag and dissolved bones using in mixture half and half. Fork in lightly, but regularly. In the spring a dusting of soot will prove beneficial; then after the fruit has set and is swelling, apply 1oz. of sulphate of ammonia. This will greatly assist the weight of the fruit.

Growers undertaking the processes of the above rotation manuring will get good production if

of course, other details, such as pruning, spraying and affinity pollination are attended to. For cordon trees use about half the quantity prescribed.

Plums on all systems require lime continually, therefore every season this constituent must be given to the soil for the benefit of the fruit, and as a factor for developing short fruitful spurs.

Hard, clean, short-jointed wood is a great desideratum in Plum growing, whether the trees be bush, trained or standards. First year apply basic slag, bone-meal and crushed charcoal in equal mixture. Use about 2lb. around the tree, keeping the manures a foot from the base. Second year, 1½lb. of superphosphate. Fork in, then sprinkle about 2ozs. of flowers of sulphur over the surface. Third season, use a nitrogeneous substance, fowl or pigeon manure, or a concentrated organic manure, using about 2lb. to each tree, still keeping these manures away from the base of the tree stem. Incorporate thoroughly into the soil. Fourth year, a dressing of burnt lime. Fork the soil previously, leaving the lime to penetrate the land on its own. Never fork burnt lime (recently applied) into the land for fruit trees.

Moisture is essential at all times and in proper season to enable the tree to benefit from the manurial applications. A slight mulching of well rotted manure applied to trees under garden or restrictive systems will benefit them considerably. Keep all mulchings 1 foot or 15 ins. from the stem of the tree. GEORGE LOVELOCK.

Free From Insect Pests

A Plant which does not Suffer from the Bane of the Greenhouse

SIR JOSEPH PAXTON, in his dictionary, says the genus Lachenalia (Cape Cowslip) is named in honour of De la Chenal, an Austrian botanical author, and gives a list of about forty varieties as being in cultivation early in the nineteenth century. One regrets to find so few of these cultivated to-day, for such varieties as angustifolia, white; nervosa, pink; and purpurea would be of great interest, especially to the hybridist. The varieties best known to most horticulturists are Nelsonii, large deep golden bells on reddish stems; luteola, greenish bells; pendula, red and pale green; tricolor, scarlet, green and lemon; and quadricolor, similar to the latter. Later introductions, not so well known, have bells with chocolate coloured tips and beautifully marked stems and foliage. All of the above-named are worth growing as pot plants for the decoration of the cool greenhouse; but if only one variety be grown Nelsonii is the best of all, providing the true variety is obtained. Where there is plenty of room for growing them in hanging baskets they are very effective, but in the usual type of low span roof greenhouse they are best grown in pots.

The culture of this handsome early-flowering bulb is not at all difficult, even for an amateur, if he has a cool greenhouse that can always be kept two or three degrees above freezing point. In the south, August is a good month for potting the bulbs for the earliest supply of bloom, but the first week in September I have found to be the best time for the main batch, which would be in bloom during March and April, providing the plants have had a cool temperature from the commencement. A suitable compost is one consisting of two parts of loam and one of good rotted leaf-mould with enough coarse sand to keep it open. When mixing add a 5-in. pot of dissolved bone meal to a barrowful of soil. I have used rotten cow manure instead of leaf-mould when the latter has been scarce, but it was not a success, and I have come to the conclusion that leaf-mould is essential with heavy loams for most flowering plants. Five-inch pots (48s) are the most suitable for growing the bulbs in, and in these, after three parts filling with compost, place six even sized bulbs, covering them with about an inch of soil, and lightly, but firmly, compressing the same with the fingers. Place these in a frame in a sunny position and water them well, then close the frame and shade from hot sun until growth has commenced, after which plenty of air must be given. Watering must be carefully attended to each day, only using the waterpot on those that are really dry, for over-watering will often injure them, until well rooted. If the weather be mild they are better in the frame until December (covering with mats when the nights are likely to be rather cool), when they may be taken into the greenhouse and put on shelves or stage near to the glass. Give water sparingly through the dull days, but in January, when the plants have made good foliage and the flower-spike is seen pushing up, give water freely and weak liquid manure twice a week until the foliage dies down. The temperature of the house may fall as low as 33° and not injure the plants, but care must be taken to keep it above freezing point, especially when the plants are close to the roof of the house. A temperature of 40° to 45° suits them best when coming into flower.

After the flowering period is over, still keep the plants watered freely, as, if allowed to become dry, premature ripening of the bulb takes place, and thus lessens the chance of next year's success. When the foliage is turning yellow withhold water and place the pots in the sunniest position possible, and there let them remain throughout the summer to get a good baking. When potting-up time comes round again shake the bulbs out of the soil, pull off the bulblets that have formed and put them in pans or pots by themselves, potting up the large bulbs again for next season's supply of flowers.

Happily, Lachenalias are plants that do not require staking, nor are they subject to insect pests or diseases which are the bane of so many greenhouse plants. F. J. L.

London Elms and Place Names

ONE of the most interesting chapters in Mr. A. D. Webster's delightful book on "London Trees" is that in which he shows how largely their names have entered into place-nomenclature. Not only streets and squares, but whole districts have been in this way designated, and a single tree may stand sponsor for a whole wilderness of streets and houses. Thus the "Gospel Oak" at Kentish Town, which first gave its name to the fields which surround it, now stands for the populous suburb which replaces those fields, and has also given its name to the railway station which supplies the travelling needs of the district.

The most popular tree in London place-names is the Elm; this is probably because, being often planted in groups, it formed a conspicuous feature of the landscape. Thus the "Seven Sisters," whose memory is preserved in Seven Sisters' Road, were seven Elm trees planted in a circle before a public house which bore the same name. These attained a great age and were replaced in 1852 (Mr. Webster tells us) by others which, in their turn, have disappeared. Nine Elms, again, that depressing region which has long been devoted to the London and South-Western Railway—for whose goods traffic it has always been a centre and where the first London terminus was situated—commemorates as many lofty trees which, before the arrival of the railway, occupied the spot.

The prominence of the Elm in London place-names is well shown in the "Post Office Street Directory," where "Elm" stands as prefix to seven groves, ten parks and six roads, with occasional lanes, places and streets. The Oak runs it very close, but largely in combinations, as "Oakfield," "Oakdale" and the like. Doubtless in most of these cases no particular tree is referred to; in others, however, if the name were traced to its source, some definite association with the special tree would be discoverable. One such instance is found in the somewhat unpromising entries, "Elm pk. gdns., Fulham rd., S.W."; this, with the neighbouring "Elm pk. mans." is all that remains to commemorate what, sixty years or more ago, was a district which took its name from a tree that preserved the memory of an historical incident. At the period I have named the district was known as Queen's Elm; the tradition which explains the name is thus given in Thomas Faulkner's "History of Chelsea" (1829). After mentioning "Queen's Elm Turnpike," he continues:

"The Queen's Tree is first mentioned in the parish books in the year 1586, and it is said traditionally to have derived its name from the following circumstance. Queen Elizabeth was walking out with the great Lord Burleigh [from his residence hard by] and, being overtaken with a heavy shower of rain, took shelter under an Elm tree growing on this spot. After the shower was over, her Majesty said: 'Let this henceforth be called the Queen's Tree.'" From a note in the parish Book, quoted by Faulkner, it appears that an arbour was built round the tree "by one Bostocke at the charge of the Parish."

Edward Walford ("Old and New London," *v.* 88) says that a court of guard at Queen's Elm Turnpike is mentioned among the defences around London that were ordered to be prepared by the Parliament in 1642. The tree gave its name to a well known public house which occupied ground adjacent to it; the site at the top of Church Street, opposite the Jewish Burial Ground, is now occupied by the Queen's Elm Hotel. JAMES BRITTEN.

A Desirable Oxalis.—There is a general consensus of opinion that even the lovely Oxalis enneaphylla is eclipsed in beauty by O. adenophylla, an exquisite plant which has gained much favour, which is thoroughly well deserved. It is, as yet, not at all common, even among rock gardens where the newest and choicest plants are in request; but it is fairly well represented in the best nurseries devoted to alpines and border flowers, and is not so costly as to be prohibited to the many. In its general appearance it has some resemblance in foliage and bloom to its sister flower just mentioned, but the blooms are of a most attractive kind, perhaps best described as being of a pale but exquisite shade of pink with a blue line along the centre of every petal. It is very charming and responds to much the same treatment as suits enneaphylla. Partial shade with a cool, rather moist, sandy loam, will meet its desires and lead to the gratification of its owner

An Excellent Plant for the Border.—Though a typically "wild garden" plant, there are some varieties of the Mulleins that are refined enough to be included in the choicest border, and among these is Verbascum Wiedmannianum, which has

the added grace, too, of being a true perennial that reappears each year with great certainty. It is very distinct both in colour and habit, for it makes far lighter sprays than the majority and is a deep indigo blue that changes to purple as the flowers age. It can scarcely have too much sunshine and stands drought well too, which is another point in its favour in such a dry season as we have experienced up to the time of writing. Like its coarser brethren it ripens seed very freely, and these spring up in all sorts of unlikely places, such as the chinks of old walls, between steps and in the interstices of "crazy" paving; but wherever it chooses to select, it is welcome. The height under the most favourable circumstances does not exceed three feet, though in this respect it is very variable and—where moisture is short—may not succeed in topping a foot rule. However greatly the stature varies, this plant never fails to flower freely.

Helianthemums for Border or Rockery.—Although the glory of these lovely plants is practically over for another year it cannot readily be forgotten by those who have seen them grown to their full advantage. A useful plant in the border or rockery, it is very easily grown as long as it can receive a full share of the sun. But how rarely it is seen in the garden! Why is it such a lovely plant is not more widely grown? Instead of seeing Armeria (Thrift) or Saxifraga umbrosa (London Pride) for a border edging—although both have merits, they have the disadvantage of the common place—to owner and visitor alike there would be more charm and delight with the blaze of colour which any of the Helianthemums produce for at least five or six weeks of the early spring. Several varieties, such as H. Rodanthe Carmen, H. Garibaldi and H. The Bride, have a silvery grey foliage which is very pleasing to the eye when the greater glory of the flowers are over. The latter is an ideal plant for the rockery, being hardy and of a suitable habit for trailing over big boulders. There are many varieties, all of which are very beautiful. Those which have impressed the writer very much with their loveliness on the rockery are Bonfire, a fine double scarlet, which continues to flower till the autumn; Lady Elizabeth, a lovely single orange pink with a crimson centre; Lemon Queen, another double of a rich lemon colour; Orange Buff, a seedling, well worth a place on every rockery; H. The Bride, a fine white with a yellow centre.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

BERGAMOT MINT (I. T., Nuneaton).—The true Bergamot Mint is Mentha citrata (syn. M. odorata) and the name Bergamot is also applied to Monarda didyma. Both of these plants may be obtained from Mr. W. Wells, jun., Merstham; Messrs. G. G. Whitelegg, Limited, Chislehurst; or Mr. Amos Perry, Enfield, Middlesex.

PLANTING OUT CHRYSANTHEMUMS (P. S. L.-K., S. Devon).—The best time to plant out both the early and later flowering varieties of Chrysanthemums is during the first half of May. Very good results may be had from putting out plants even now—good plants which have been grown in pots, and from which they can be planted direct in the border.

PLANTS FOR A SHADY BORDER (R. T., Maidenhead).—The following plants will succeed, at least for a few years, in a shady border. The leaf-soil and manure will however, attract the roots of the trees, and, in due course the soil will become a network of roots, and renovation will be necessary. For the shady portion, herbaceous Anemones, Columbines (Aquilegia vulgaris), Eranthis (Winter Aconite), Foxgloves, Iris, Leucojum vernum (Winter Snowflake) and Solomon's Seal. For the less shaded portion, Amaryllis (Belladonna Lily), Hellebore (Winter Rose), some of the herbaceous Irises, Saxifrage, Trollius (Globe Flower), Violets, Violas and Pansies; also Delphiniums, Pyrethrums and Antirrhinums. Daffodils, of course, will do well and Primroses and Polyanthuses. These will enable our correspondent to fill the border with medium and low growing plants.

FRUIT UNDER GLASS.

VINES UNSATISFACTORY (A. W., Glos.).—We suspect something amiss with the Vine roots. When the border was re-made was the drainage thoroughly overhauled? Evidently the roots have not yet grown sufficiently to supply the great demand for water in this very hot weather.

FRUIT GARDEN.

NECTARINES DISEASED (A. W., Glos.).—The Nectarines appear to be suffering from silver-leaf, but as leaves alone were sent the whole of the symptoms cannot be ascertained. Perhaps the tree (so long as no dead parts are left in) may be left until next year, manured and limed, and watched to see whether silver-leaf then develops.

MISCELLANEOUS.

MARROWS UNSATISFACTORY. (W A. B.).—We find no fungus or insect to account for the trouble with the Marrows, but we are unable to carry out analyses of soils for correspondents. We understand the Royal Horticultural Society makes such analyses at a reduced fee for its Fellows, and full particulars may be obtained from the secretary.

FLIES FOR IDENTIFICATION (E. M. J., Berks).—The flies are specimens of a rather uncommon crane fly or daddy-long-legs (Tipula maculosa). Starlings are generally very active in devouring them, fortunately, for their eggs give rise to the troublesome leather jackets.

PRONOUNCING DICTIONARY (Plants, Harrogate).—The Pronouncing Supplement referred to in our issue for June 11 last was issued with the first edition of Nicholson's Dictionary of Gardening, published by Messrs. L. Upcott Gill, Limited, and was not procurable separately. The work is out of print, but it may be possible to obtain it from a second-hand bookseller. The second-hand price varies according to condition, but is rarely less than three guineas. There is no other pronouncing dictionary of plant names obtainable.

DESTRUCTION OF WEEDS (J. S. F., Cathcart).—The "Horse Tail" usually flourishes in damp soils, though we have occasionally seen several species quite at home in moderately dry surroundings. If the situation is wet much may be done towards eradication by drainage. If the weed is in the kitchen garden the best method would be to either allow the place to lie fallow and frequently hoe it, or to crop it with Potatoes which would smother the weed. In the flower borders persistent hoeing or hand-picking the shoots, as often as they appear, will ultimately kill the roots, which penetrate deeply. The application of any destructive chemical would sterilise the soil for a considerable period.

NAMES OF PLANTS.—C. M. H., Herts.—1, Rose Ards Rover; 2, Rose Mrs. Stewart Clark; 3, Rose Mme, Jules Gravereaux.——Sojourner.—Lithospermum graminifolium.

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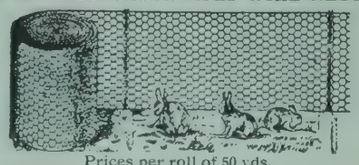

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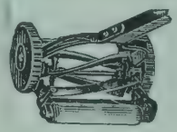

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THE GARDEN

No. 2591.—Vol. LXXXV.]

NOTES OF THE WEEK

[July 16, 1921.

BY the time this issue is in our readers' hands we sincerely trust that, taking to heart the lesson of recent industrial strife, the "Clerk of the Weather" will have "called off" the prolonged drought, which is, at the time of writing, still playing havoc not only with the simple wholesome pleasures of most of us but with the very livelihood of many thousands of zealous horticulturists. Of its disastrous effect on the farm crops and of the resultant loss to the country it is scarcely necessary to write. Its effect on the exhibits at Holland House was less than might have been anticipated. This is not to minimise the effects of the drought in any way, but rather to congratulate the growers—mostly trade growers be it said—on the manner in which they had so largely overcome difficulties from which they had been relatively free for ten seasons and which we trust they will not have again to face for a long time to come.

Order Early.—We have reason to know that many readers placed orders for seeds and plants at Holland House Show, but the larger number would no doubt wish to go through their impressions at home and map out more or less at leisure their programme for the coming season. This is undoubtedly a wise policy, and one often advocated in these pages, but we would earnestly advise that orders should be given *as soon as possible*. Whatever other ill-effects the drought may have had, it will inevitably greatly hinder propagation and will also increase propagating losses to much above normal. From this follows the likelihood of a shortage of hardy, herbaceous and alpine plants at planting time. Many sorts of seeds, too, will almost certainly be scarce whatever weather supervenes. There is such a thing as first come, first served. *Verb. sap.!*

A Timely Reminder.—At a time when watering is in most districts difficult and in many impossible, it is well to select the plants to which long privation is fatal, and by an occasional good soak and careful mulching preserve them. Where watering is quite impossible or against public policy, many shrubs might be saved by heavily mulching them, drawing their branches together as far as may be, and shading from the sun with rough sacking or other material. Rhododendrons, Azaleas, Kalmias and other American plants, or the subject of our illustration, Hydrangea paniculata, do not "cost so little the breeding" that we can readily allow them to succumb for the want of a little care! There are many plants which do not so strongly resent the drought as they do the excessive amount of sunlight. All varieties of the common Primrose (Primula acaulis), Polyanthus and Cowslips and many other Primula species grouped among shrubs with a north exposure will succeed even in dry seasons, where plants in the open, though copiously watered and sprayed to check insect pests, would fail. Where valued subjects such as these still survive, some shade should be extemporised, or they might be lifted, soaked for a few minutes (roots as well) in soap and water, and replanted in a shady frame. Insect pests always batten on plants in uncongenial situations, and even our misfortunes may be turned to advantage if we note carefully the comparative freedom from insect pests of the same species or variety—and it is astonishing how widely varieties of the same plant differ—in different aspects, composts and environment, and also observe the effect on the same plants of varying meteorological conditions.

A BEAUTIFUL SHRUB THAT ABHORS DROUGHT.

The Happy Gardener.—It is interesting to hear from Lady Rosamond Christie that Mandevillea suavolens—raised from a cheap packet of seeds procured from a well known and popular seed house—has, in her garden at Instow, North Devon, withstood recent winters on a terrace wall. It is now in full flower. Lady Christie is at present experimenting with a bed of Clivias outdoors. We trust she will be successful, and shall be glad to hear the result of the experiment. The gardener who gets the most enjoyment out of his hobby—to all real gardeners it is a hobby, even where it provides bread and butter, a little jam, too, we hope!—is always an experimentalist. He does not take things for granted. If he is fortunate to live in some sheltered corner of Devon or Cornwall, he tries to grow outdoors plants ordinarily cultivated under glass. Should he live in the Midland Counties, especially if he be favoured with a light soil, he experiments with shrubs, trees and plants reputed only to succeed in the South, and in many cases he is rewarded by a garden more beautiful and less humdrum and monotonous than his neighbours'. If he lives in the suburbs of a smoky city he, boldly fronting adverse circumstances, determines that he will make *his* garden, small though it may be, different from its neighbours. Though his friends tell him his soil is impossible for, shall we say, Onions, he straightway strives hard to grow Onions which shall be equal to any in the county. A resolute endeavour and he will probably succeed, because determination has a wonderful way of overcoming obstacles. The true gardener will meet with failures, he may take several seasons to attain success, but there is always great joy in mastering difficulties. Of the experimentalist, if of anyone, it may truly be said—Behold the *happy gardener*.

HAS DOROTHY PERKINS HAD HER DAY?

In some quarters there is strong disagreement with the assertion that the day of Dorothy Perkins is over. Whether this is the case or not, there are many Wichuraiana Roses equally, indeed more, beautiful, which should be used to a far greater extent. The best of these are referred to in the following article.

IT is, we think, very improbable that when cross-pollinating the then newly introduced Rosa Wichuraiana the hybridiser expected to produce a race of plants of the vigour of, say, Dorothy Perkins or Albéric Barbier. The typical plant is certainly of trailing habit, but it has not, at any rate in cultivation, the vigour of our wild blue Briars (Rosa arvensis), from which a race of climbers might have been expected to have been evolved, but which have proved of little service in this direction. Many Roses of widely different parentage have been used for cross-pollinating with R. Wichuraiana, and the resultant seedlings incline sometimes to one parent, sometimes to the other as regards vigour and foliage. So that one obtains quick-growing, vigorous, fairly stout wooded ramblers, such as Albéric Barbier and thin-wooded pillar Roses as typified by Hiawatha.

Most varieties seem as hardy as our common hedge Briar (R.canina), but a few of them, betraying the infusion of Tea blue also in their foliage and smaller stature, suffer severely should the winter prove at all severe.

At the time when Dorothy Perkins first was introduced Crimson Rambler was, with all its faults, the hardy rambler *par excellence*, and no garden large or small was worthy to be called a garden, in the opinion of most, that did not contain at least one specimen. When it was realised how big an advance Dorothy Perkins made as regards vigour, colour, adaptability and freedom from mildew on the then favourite, it is perhaps understandable that it should be taken to the hearts of the flower-loving public and that, despite the later introduction of many equally excellent new varieties, it should have retained its popularity.

Very similar to Dorothy Perkins in colour and habit of growth, Lady Gay, which has a little more finish in flower and truss, but is rather less floriferous—at least that is our experience—has never been as popular; but as there are in commerce several bad stocks of White Dorothy—there is, be it understood, a pure white Dorothy if one can manage to obtain it—it is generally advisable to plant the white Lady Gay (Mrs. Littleton Dewhurst) as a companion to the pink Dorothy. Dorothy Dennison, the pretty pale pink sport, harmonises charmingly with Excelsa, which, although not a sport, is very aptly described as Crimson Dorothy. These four can always be depended upon to come into flower together. Minnehaha, despite its euphonious name, achieves popularity slowly. For cut flower it is far superior to the old favourite, but scarcely makes so elegant a garden plant, and recovers its poise less quickly after rain.

Probably the most vigorous Rose of this section is Albéric Barbier, which has long been a popular favourite, and though the shape and colour of its opened flowers might be improved upon, and, indeed, have been, it is still the best of the soft yellow Wichuraianas. Its vigour of growth and beautiful, usually evergreen foliage set it apart from the rest. Aviateur Bleriot is very beautiful, but is none too hardy and has little vigour; but the newer semi-double Klondyke and the single Jersey Beauty have both much of the habit of growth of Albéric Barbier, and are most desirable either on bank or wall.

It is remarkable that some of the varieties with more of the Tea Rose colouring and form of blossom have not achieved popularity. I suppose in gardens one sees a hundred Dorothy Perkins where one encounters a single specimen of, say, Léontine Gervais, Elisa Robichon or René André, yet these are all truly beautiful Roses, not new, but quite old favourites for the more discriminating to employ and enjoy.

A BRICK PILLAR HANDSOMELY CLOTHED. *NOT* DOROTHY PERKINS.

For a pillar the single crimson Hiawatha is rather popular. Those requiring a pink companion for it will be glad to know that the salmon pink Coquina, a Rose of a similar habit of growth, expands its blossoms at the same time. Very similar to Hiawatha but of a rather lighter shade of colour and a rather better grower, Delight is, with some, very popular, but the stiff habit, bold white-centred flower, handsome truss, glossy foliage and vigour of American Pillar, with rosy carmine flowers, make it easily the best of the single red shades.

Of a nice habit of growth and a much better shade of crimson than Excelsa—earlier to bloom be it noted—the charming Troubadour seems not to be making the progress to popularity that it well deserves. Another crimson pillar Rose which bids fair to attain popularity is the very beautiful Paul's Scarlet Climber.

The Wichuraianas are valuable for so many purposes that they may be said to have become almost indispensable in the garden. As a stout screen to hide a rubbish heap, maybe, or unsightly tool house or potting shed, what could be more useful or beautiful than Albéric Barbier? To trail down a rough bank even in strong sun the same variety is invaluable, while in less parched aspects all the Dorothy Perkins family, René André, Jean Guichard and Léontine Gervais will succeed admirably.

For the now very popular weeping standards only the strongest growers are suitable, such as Excelsa, Dorothy Perkins and sports, Lady Gay, Mrs. Littleton Dewhurst, and Coronation, for those who like this rather pied variety; while the white Fraulein Octavia Hesse, which as a pillar is hardly sufficiently floriferous, is often very successful. It is, we hope, unnecessary to reiterate the warning against foreign Rose stocks, but the true R. canina stock is very necessary for this purpose, and with this form of training it is essential carefully to carry out the necessary pruning immediately they are out of flower.

The pruning season for Rambler Roses is now upon us, and as they go out of flower they should receive immediate attention with a view to ripening up the new wood. We sincerely trust that we shall not have an autumn of quite so ripening a character as the weather experienced lately, and in any case it is wiser not to take chances; moreover, the removal of some of the wood must in time of drought tend to some extent to increase the flow of sap to the remaining wood.

The Wichuraianas as a class do not require such hard pruning as the climbing Polyanthas; indeed, too much pruning is likely to cause them to make wood at the expense of flower, so that it is undesirable to plant the stronger-growing sorts in situations

where their growth must necessarily be greatly restricted. Again, while it is very desirable occasionally to cut away some of the old growth of, say, Dorothy Perkins right to the bottom, with Albéric Barbier, for instance, which expands its old wood with marvellous rapidity and quickly covers it with healthy corky bark, it is wise, as far as possible, to let it extend, simply thinning out as necessary to prevent overcrowding. The smaller growers, typified in Hiawatha, should be pruned almost exactly as one would Crimson Rambler so as to induce the formation of strong shoots from the base of the plant. The pruning of Roses trained, or, should we rather say, allowed to grow, down a bank, for too much training is undesirable, is never an easy matter. If neglected, as is too often the case, for several years, the task will at length become so Herculean that, in despair, the plants will probably be grubbed up, or so drastic a treatment will be necessary that the effect of the bank will be destroyed for, at any rate, one season. With the help of an assistant with a blunt ended stable-fork or a small pitch-fork with some protecting material on the points, the job, if undertaken regularly every season, will be found comparatively simple.

The glossy-leaved varieties resist sun and drought better than the others, so that on a wall with a southern exposure Albéric Barbier, American Pillar or René André can be grown successfully where Dorothy Perkins or Hiawatha would fail.

HOLLAND HOUSE AFTER FIVE YEARS

THE Show at Holland House was, despite the prolonged drought, a particularly good one and if, to a degree, it lacked the spectacular display and flaming colour of Chelsea, it gained something perhaps in harmony. If this should indeed prove the last meeting in these grounds, as is only too probable, it will not form an unworthy finale. Here and there lack of stature in the Delphiniums exhibited proclaimed the drought and, speaking generally, the Roses and Sweet Peas bore, on close examination, evidence of ravage by thrips, which are, of course, always specially troublesome in dry weather.

Whereas at Chelsea the most noteworthy feature was, as always, the rock and formal gardens outside, at the Summer Show principal interest centres in the contents of the tents. Despite the beauty of some of the greenhouse and stove plants exhibited and the wonderful display of Orchids, the overwhelming interest of the vast majority of the gardening public present—there are no doubt a minority who attend these Shows who, lacking opportunity to cultivate flowers themselves, yet come solely to gratify their taste for the beautiful—was for the most part concentrated on hardy trees and shrubs, especially Roses, herbaceous and rock plants and annuals, and special attention has been given in the subjoined report to these sections.

The exhibitors are heartily to be congratulated on the fine display, which, considering the adverse weather conditions, could only be considered as wonderful.

THE FORMAL GARDENS.

The Coronation Cup for the best exhibit in the Show was awarded to Messrs. R. Wallace and Co., Limited, for a pool garden in a setting of Lilies and herbaceous plants. The colour scheme was well judged and the general effect pleasing. In a bold bank of Eremuri the beautiful buff hybrid Sir Michael stood out against the pleasing citron colour of E. Bungei superbus. Lilium Krameri and L. Sulphur-gale (L. sulphureum × L. regale) were well shown. Iris Kæmpferi and the pink Astilbes were in evidence, and a little colony of Primula Littoniana looked very charming.

Messrs. Cheal and Son staged a model of a paved terrace garden with a circular Lily tank recessed under the terrace wall. This was well set off by the planting, which included Cedars of sorts, Cupressus macrocarpa lutea, Japanese Maples and Tamarix hispida. Abutilon vexillarium was also noteworthy.

Piper's water garden had as a background many good varieties of conifer, including some of the forms of Juniperus pachyphlæa, but a quite pretty, if undistinguished, arrangement lost a great deal of its value because of the light background of the tent canvas. A good backing of green baize or other solid material would have improved this exhibit beyond telling.

Outdoors Messrs. W. H. Gaze and Sons had a formal garden which found many admirers. The planting, which was carried out in shades of blue, mauve and purple, was effective, though rather mixed in character. Enclosed by a Yew hedge, admittance was gained by wrought-iron gates hung to brick piers, the central feature being a raised Lily tank, its coping sitting-height. The paths were formed with rather small—too small—crazy paving. The effect would have been heightened if genuine old red bricks had been utilised instead of new ones discoloured, but it was nevertheless a praiseworthy effort, not too well repaid by the award of a silver-gilt Flora medal.

Formal gardens were also staged by Messrs. Ryder and Son, Limited, Mr. Herbert Jones and Mr. E. Dixon of Putney. Mr. Dixon's garden was small but pleasing. Messrs. Ryder's combined brick and stone in a manner not altogether fortunate, and a good deal of its beauty was destroyed by its use as a setting for a model hard tennis court. This court was of a quite pleasing shade of green, and to those who uphold the impervious court, must have been of considerable interest. It is a pity that the netting supports to this court—never things of beauty—could not have been left to the imagination. Mr. Jones' Dianthus garden illustrated effectively the use of dry walling.

A ROCK GARDEN.

Rock plants are never in great force at the summer shows. Much credit is due therefore to Messrs. C. G. Whitelegg and Co. for their rock garden exhibit outdoors, which abounded in colour. Carried out in Lakeland limestone, there was the merest suggestion of water. In the immediate foreground Erica cinerea rosea was grouped in the turf to simulate moorland. The great bulk of the flower was provided by many species and varieties of the genus Campanula, but Primula capitata in good form and colour was noteworthy, as were some good rosettes of Saxifraga longifolia, rather too monotonously arranged perhaps for a critical eye, and the same may certainly be said of a drift of Juniperus hibernica compressa. There seems of late to be a custom at shows to group this particular miniature in this way, but the effect produced is so childish that this particular custom might well be honoured in the breach For the rest a few rather taller subjects in the nearer distances would have been an improvement, but the exhibit as a whole was distinctly meritorious.

HARDY HERBACEOUS AND ALPINE PLANTS.

Messrs. Amos Perry had a very imposing group of hardy Ferns and Lilies flanked by herbaceous flowers. Most of the Lilies shown were L. pardalinum crosses, all very beautiful and for one of these, L. Pardal-perryi, he received an award at this meeting. Eryngium Violette in the way of E. Oliverianum, but of a more purplish blue, was interesting. Noteworthy plants on Messrs. Harkness' stand were Salvia turkestanica, Thalictrum dipterocarpum, Verbascum vernale (a very good compact yellow) and Gaillardias E. T. Anderton (which seems fast to be superseding Lady Rolleston) and Mrs. Mackeller. The "Regal" strain of buff Lupines (yellow shades the firm call them), are attractive.

A neighbouring firm, Messrs. G. Gibson and Co., also had Gaillardias, which were well shown, Galega Lady Wilson, almost a self-coloured lilac-rose and the not too often seen Gillenia trifoliata. They also had some very good Delphiniums. Messrs. John Waterer, Sons and Crisp's display was commendably fresh and well staged. Campanula carpatica pelviformis, C. turbinata pallida, the invaluable Erythræa diffusa and the still uncommon Pelargonium endlicherianum were noted. Messrs. Clarence Elliott, Limited, staged a small group of alpines, including such useful things as Nierembergia rivularis, Œnothera missourensis, Campanula kewensis, Androsace lanuginosa Leichtlinii, Dianthus deltoides superbus (a great advance on the typical plant as regards colour), and Campanula King Laurin, apparently a dwarf rotundifolia form with pretty lavender-coloured flowers. Mr. W. Wells, Junr., had Rudbeckia californica, Centaurea macrocephala and Sidalcea Rose Queen in good form. Among a very nice lot set up by Messrs. B. Ladhams, Œnothera speciosa grandiflora, Platycodon grandiflora, Lavatera Olbia rosea and Spiræa Gloria caught the eye. Mr. G. W. Miller of Wisbech had those grand Lilies, testaceum and chalcedonicum, in especially good form, also Delphiniums.

Mr. G. Reuthe, in addition to quite a collection of Orchis, had many plants of interest to the collector of rock plants, such as Callistemon coccineus and Acantholimum venusta. Erica cineria atrorubens though not so beautiful as E. cineria coccinea is valuable and quite distinct. Messrs. Bakers', Limited, had herbaceous plants and Delphiniums boldly grouped with a big drift of their Sunbeam strain of Iceland Poppy. We could not help thinking that the effect would have been

better if the flowers of these had been segregated to colour.

Mr. H. Hemsley had a very interesting collection, of which the following are exemplars: Primula carpatica, Nertera depressa, very well berried; Linaria alpina concolor, L. repens hybrid, very feathery and graceful; Potentilla Warrensii, golden yellow, and the vivid crimson Heeria elegans. Sidalcea Hemsleyana, a nice-habited plant with distinct terracotta flowers, and Rudbeckia St. Dunstan were also noted. Mr. R. C. Notcutt's display included Romneya Coulteri—it was a little surprising considering the season not to find this more largely displayed; Senecio laxifolius and Ceanothus Gloire de Versailles. Mr. Maurice Prichard had an excellent display, of which the following were in splendid form: Delphiniums Theodora, Cupri, Macbeth and chinense album all more or less of what we will loosely describe as the "belladonna" type; Poterium obtusum, Platycodon grandiflorum, Campanula carpatica Isabel, C. carpatica pallida and C. turbinata grandiflora, Kniphofias Sulphur Queen, Royal Standard and Goldelse, the tiny deep purple Verbascum Weidmannianum and the bold habited rich gold V. Britannia. Messrs. John Forbes (Hawick) had Delphiniums, Phloxes—very good considering the season—Pansies, Violas and Pentstemons. Of these last, Lord Rothschild (a pale rose variety with maculated throat), Alexander Michie (palest mauve) and the old George Home appealed especially.

On Messrs. George Jackman and Sons' stand Salvia nemorosa and Astilbe Gloria merited notice. Messrs. Blackmore and Langdon's Delphiniums attracted much deserved attention. We noted Sir Douglas Haig, Millicent Blackmore, Mrs. Christie Miller and Statuaire Rude, all with towering spikes and also the vividly coloured Lord Lansdowne.

Trees and shrubs were at this Show mainly represented by topiary, which appeals, after all, to a limited number of people and is assuredly suitable only for a limited number of situations. Having said so much it is only fair to add that Messrs. Waterer's exhibit comprised specimens as fine as have ever been seen in a show ground. The large number of golden pieces were in splendid colour and the whole collection exceedingly well grown and displayed. Many of the specimens must have taken several years to train. Some few of them were really beautiful, especially might this be said of a slender column of Chamæcyparis pisifera, topped with a neat unclipped head of C. filifera aurea. Messrs. W. Cutbush and Son, too, had some excellent pieces, as had also Messrs. Piper and Son of Bayswater, and Messrs. J. Cheal and Sons.

An interesting lot of conifers and other choice shrubs, some of them very rarely seen, were set up under canvas by Messrs. Hillier and Sons of Winchester. To select a few almost at random, we may mention Torreya californica Myristica, Cupressus lusitanica glauca, Picea Breweriana, Abies arizonica, Podocarpus macrophylla, P. chilina and Abies religiosa, also Eucalyptus ficifolius—the beautiful and characteristic reddish orange inflorescence of this tree was well displayed—Cistus Silver Pink, very beautiful; and Olearia insigne. They had also the hardy Plumbago cerastostigma Willmottiana. Messrs. John Waterer Sons and Crisp, Limited, had on a standard a beautiful Yew with the habit of T. Dovastoni aurea, but with foliage of a pleasing saffron shade This variety has, we understand, not so far been given a name.

A very interesting but not showy exhibit was that of the Donard Nursery Company, who had Philadelphus and Escallonia in variety, including the not common E. Edinensis, also Berberis Moseri and Corokea Cotoneaster, Leptospermums and Guevina Avellana.

CARNATIONS AND PINKS.

Messrs. Allwood Brothers showed Perpetual and Border Carnations and Allwoodii. Alongside the Perpetuals the Border Carnations did not exactly coruscate, and it would perhaps have been wiser to stage them apart. Of the Perpetuals, Wivelsfield Pink, Circe and the scarlet Edward Allwood were well shown. The free-flowering and perpetual character of the Allwoodii renders them invaluable, but one cannot but feel that the varieties so far in commerce are but the progenitors of a race which, while retaining their best characteristics, shall achieve the cleaner, brighter colours and better form of the Dianthus Herberti shown in another tent. The Pink is still a popular flower, and these beautiful descendants from Progress were, as usual, a great attraction. Some of the best were Victory, deep crimson; Lyric, of a colour hard to describe, but with a good deal of magenta in it; Eclipse, like a rather smaller Enchantress Carnation; Mrs. George Walker, salmon laced; May Queen, salmon rose, self-coloured; and Comedy, much in the way of Progress, but with the pink coloration predominant. The delicate pink Model evenly laced with maroon has a consistent perfection of form not yet seen in the Carnation. Mr. C. Englemann had a noteworthy display of Perpetual Carnations. Where all are good it is difficult to particularise, but White Wonder, the scarlet Tarzan, white May Day, Saffron and Carola were among the best.

Mr. James Douglas exhibited Border Carnations exclusively, including his desirable new Clove-scented varieties. In addition to the varieties receiving awards, the crimson Gordon Douglas, Bookham Rose, the scarlet Fujiyama, King Clove (crimson) and the orange buff Melanie were noteworthy. Conspicuous on Messrs. Stuart Low and Co.'s exhibit was their beautiful Perpetual White Pearl.

Fruit trees in pots were exhibited by Messrs. T. Rivers and Son and by Messrs. George Bunyard and Co. Messrs. Rivers' exhibit was one of the outstanding attractions of the Show. It included a fine collection of Cherries—where all were so well grown and fruited it would be invidious to particularise—two or three varieties of Peach and Nectarine all ripe, and laden trees of Plums President and Grand Duke. Messrs. Bunyard's trees were well grown and nicely fruited, but, excepting the Cherries, were not in such forward condition. In addition to Peaches, Nectarines, Figs, Plums and Cherries, well fruited specimens of Apples Rev. W. Wilks, Rival and Peasgood's Nonsuch were exhibited. Messrs. Laxton's showed good plates of Strawberries and Red Currants. Of the former Laxton's Latest, Lord Beatty, Laxtonian, Waterloo and Givon's Late Prolific were noteworthy, as was Currant Laxton's Perfection.

ROSES.

The Queen of Flowers was largely and, on the whole, well represented, although the unfortunate climatic conditions had undoubtedly left their mark in scorched, imperfect and thrippy flowers. The varieties hereunder noted as giving a good showing might with advantage be used as the nucleus of a list of sorts, the flowers of which suffer least from drought and harsh winds. As might be expected, the dwarf Polyantha Rose came through the ordeal better than the—shall we say more finely bred—Hybrid Teas and Teas. A very charming new single Polyantha was exhibited by Messrs. Laxton—Laxton's Pink Delight. This will, it is safe to predict, prove a very popular variety as, in addition to its use as a perpetual flowering bedder, it should be of great value for cut flowers. The individual blossoms are shapely and nicely spaced on the trusses and as a crowning glory it has a strong and pleasing scent. Messrs. Laxtons have another new Polyantha variety which should be a useful addition—Laxton's Crimson Orleans.

Mr. Elisha J. Hicks specialised, as usual, in decorative sorts. Some good specimen blooms of Mrs. Elisha Hicks and George Dickson were exhibited, while showy decorative sorts which attracted attention were Margaret Horton, Margaret Dickson Hamill, Mrs. George Shawyer, Red Letter Day and Lady Hillingdon.

Messrs. Alexander Dickson and Sons had the following well in character: Mme. E. Herriot, Mrs. Wemyss Quinn, K. of K., Sunstar, Elizabeth Cutler (very bright and velvety), the deep cerise Lady Inchquin, Clara Curtis (a very shapely yellow of Tea Rose form), and Edel White. It is a pity this last variety is not a purer white.

Messrs. Frank Cant and Co. had very charming pillars of Wichuraiana varieties, including Braiswick Pink and Snowflake, both likely to prove useful varieties, and the beautiful Léontine Gervais, which surely merits more attention than it has ever received. Of non-climbing sorts, Mme. E. Herriot in very good colour, the deep orange-buff Los Angeles and Captain F. S. Harvey Cant, were most noteworthy, the last named in style and colouring reminiscent of Joseph Hill. On Messrs. Stuart Low and Co.'s stand the golden yellow Christine and Queen Alexandra were noted. Mr. Charles Turner had a pleasing display of which the *raison d'etre* was a number of well grown and flowered weeping standards. Excelsa, D. Perkins, D. Dennison and Coronation were thus well represented. The seldom seen Wichmoss was used effectively. Messrs. Benjamin R. Cant and Sons had a notably clean and attractive display, which included Henriette, Golden Ophelia, Mme. Mélanie Soupert, K. of K., Queen Alexandra, Golden Emblem and Emma Wright, all in good form. The single buff Mrs. Oakley Fisher was very attractive. Messrs. Wm. Paul and Sons, Limited, had good vases of Rayon d'Or, Mrs. Wemyss Quinn, Ophelia and Louise Catherine Breslau, while the white pillar Rose Mermaid was very beautiful. Messrs. Walter Easlea and Sons exhibit was chiefly notable for the display of Prince of Wales, with which they secured the Clay Cup. It is a pity this variety is not a little fuller and also a little stouter in the petal.

SWEET PEAS.

These popular flowers were largely exhibited, but were not, generally speaking, up to the usual standard. The best Sweet Peas in the Show were exhibited by an amateur, Mr. T. H. Mann, of Trulls Hatch, Rotherfield (gardener, A. Jewell). He had twenty-four excellent vases, of which the following were perhaps the best: Barbara, Constance Hinton, Hercules, Royal Scot, Mrs. A. Hitchcock, Jean Ireland and Lavender George Herbert. On Messrs. Dobbie's gold medal exhibit, Jean Ireland, Majestic Cream, Royal Scot, Dobbie's Orange and the beautiful cream ground Dignity were the best. Messrs. Sutton and Sons had Edward Cowdy happily contrasting with the old, but beautiful, Clara Curtis. They also had Constance Hinton in good form. Sweet Peas were also well exhibited by Messrs. Alex. Dickson and Sons, by Messrs. Ireland and Hitchcock and Messrs. John K. King and Sons.

HARDY AND HALF-HARDY ANNUALS.

With the exception of the display of Sweet Peas, the Show was remarkable for the small display of these popular and indispensable flowers. Messrs. Carter's Eschscholzias are referred to elsewhere. On Messrs. Sutton and Sons' exhibit were huge baskets of beautiful annual Larkspurs, white Sweet Sultans, French Marigolds, Poppies and Gaillardias, to name some of the best; while Messrs. Jarman and Co. of Chard had quantities of their speciality, annual Centaureas, the varieties being Bride (white), Bridegroom (mauve) and Honeymoon (golden yellow). Messrs. Gaze and Sons' Ten-week Stocks in their formal garden were well grown, but looked very forlorn in the heat. Mr. James Macdonald's "green velvet" sward in its setting of ornamental grasses was a veritable oasis amid the parched turf of the show ground. Particularly beautiful, though just past its best colour, was the purple Barley, Hordeum jubatum.

GREENHOUSE AND STOVE PLANTS.

Messrs. James Carter and Co.'s group was very beautiful. The Gloxinias were especially fine, but their collection of Eschscholzias was very beautiful and interesting. Mikado caniculata, Dainty Queen and Crocea caniculata were the varieties which for us had the strongest appeal, but some of the new art shades would have a wide attraction. Mr. A. P. Brandt (gardener, J. W. Barks) of Bletchingley Castle had a very bright, clean group of Crotons. Messrs. John Peed and Sons had a splendid lot of Caladiums, also a group of beautiful Gloxinias.

The Hon. Vicary Gibbs (gardener, E. Beckett) exhibited a collection of scented Pelargoniums which was very interesting; also a lot of Pelargonium crispum variegatum, which is not handsome shown in bulk, and we think visitors to the Royal Horticultural Society's meetings must now be getting tired of seeing it.

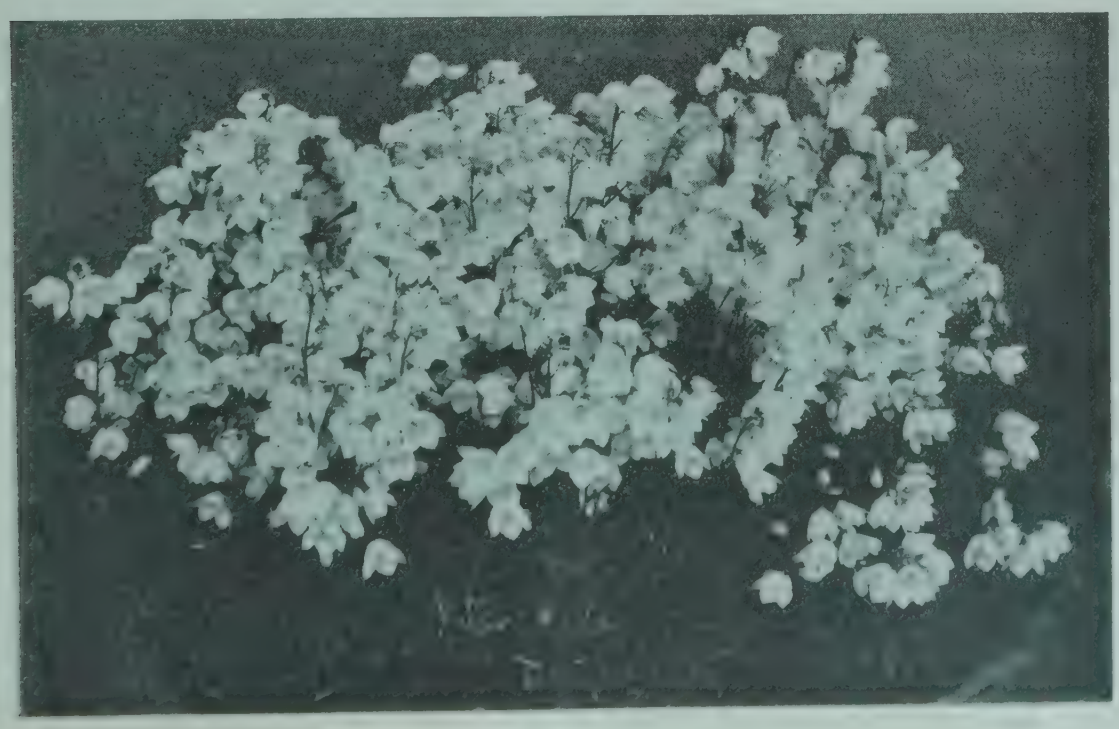
Messrs. L. R. Russell, Limited, exhibited stove plants in variety. Messrs. R. and G. Cuthbert had their greatly improved strain of Streptocarpus, which are fast approaching the Gloxinia in point of size and the Incarvillea in appearance.

Messrs. Blackmore and Langdon and Messrs. R. J. Bastin and Sons exhibited Begonias. The Tiverton Hill plants were, as usual, marvellous, and it was difficult to make a selection, but King Albert (a grand new scarlet), Queen of the Belgians (a magnificent rose) and Lord Lambourne (orange) were very attractive. The basket Begonias, too, were excellent, the sorts used being Lena (rosy crimson) and Golden Shower. Messrs. Bastin's plants were also very good, and Mrs. W. Wilson (crimson scarlet) and Lady Diana Cooper (white with a picotee edge of pink) were especially charming.

Orchids were magnificently displayed by, among others, Messrs. Charlesworth and Co.; Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gardener, J. Collier), and Messrs. Mansell and Hatcher. To those interested in this great family there was much of interest.

NEW AND RARE PLANTS AT HOLLAND HOUSE

Campanula Spetchley.—This will be a valuable dwarf Campanula for the rock garden or the front of the hardy flower border. When in full bloom it is about 9ins. high and becomes a mass of white bells set at right-angles to the graceful stems.



CAMPANULA SPETCHLEY.

STREPTOCARPUS BARONESS INVERFORTH.

The deep green linear leaves are about 1 ins. long. Award of merit to Mrs. Berkeley.

Streptocarpus Baroness Inverforth. — This Gloxinia-like variety had rosy carmine flowers, 3½ins. across, the creamy white throat was without venation. Of excellent habit of growth, it might be described as a more deeply coloured and improved Rose Queen. Award of merit to Messrs. R. and G. Cuthbert.

Rose Clara Curtis.—This, perhaps the best of all yellow Hybrid Tea Roses, received a gold medal at the National Rose Society's Norwich Provincial Show, where it was immensely admired, and it was shown at Holland House in even finer condition. It is almost the ideal yellow Rose; the colour is deep and pure, the flowers large and the petals of good substance; the foliage and stems are excellent, and it is delightfully fragrant. Award of merit to Alex Dickson and Sons.

Rose Lady Inchquin.—This glorious Rose is described in our report of the recent Regent's Park Show (page 340), and it now fully confirms the high opinion we then formed of its garden value. Award of merit to Alex Dickson and Sons.

Rose Betty Uprichard.—This was one of the Regent's Park gold medal Roses. The sunburnt crimson colour of the outsides of the petals was again very delightful. Award of merit to Alex Dickson and Sons.

Carnation Apricot Self.—The name fairly describes the beautiful colouring of this border variety, which is of good size and perfect shape. Award of merit to Mr. James Douglas

C. Bookham Yellow.—Another equally perfect border Carnation. It is of good clear yellow colour. Award of merit to Mr. James Douglas

Scolopendrium Golden Queen.—A very striking variety of S. vulgare crispum. The fronds are splendidly waved and the yellow colour is spread over all but the margin. Award of merit to Mr. A. Perry

Begonia Mrs. W. Wilson.—A most handsome double-flowered, tuberous-rooted Begonia. The very large deep scarlet flowers are of perfect shape Award of merit to R. J. Bastin and Son.

B. Pavlova.—A very charming rich yellow, double-flowered, tuberous-rooted Begonia of large size, with pleasantly waved outline. Award of merit to Blackmore and Langdon.

B. Hilda Langdon.—A very beautiful soft pink coloured, tuberous-rooted Begonia. The immense double flowers are very refined. Award of merit to Blackmore and Langdon.

Centaurea pulchra.—This handsome Thistle bears purple-tipped flowers and the leaves are silvery underneath. Shown by Bakers, Limited.

Dierama pulcherrima alba.—A good white form of the graceful Dierama which was shown so well at Chelsea. It flowers very freely and the silvery bracts persist on the stems, rendering them valuable for decoration in winter. All the Dieramas resent root disturbance, so once established, should be left alone. Award of merit to the Donard Nursery Company.

DIERAMA PULCHERRIMA ALBA.

THE NEW PANTHER LILY—LILIUM PARDAL-PERRYI.

Lilium Pardal-perryi.—As the name suggests it is one of Perry's many L. pardalinum hybrids. The spike is tall and graceful, while the medium sized flowers are rich yellow, freely spotted with dull crimson. Award of merit to Mr. A. Perry.

Notospartium Carmichaeliæ.—A very fascinating shrub with rush-like foliage and an abundance of rosy-mauve pear-shaped flowers. It is an uncommon shrub for a low wall in a moderately warm place. Shown by Robert Veitch and Son.

Lavender Dwarf French.—A very useful variety which bears plenty of rather larger spikes than most of the dwarf sorts. Shown by Maxwell and Beale.

Delphinium Jenny Jones.—An exceedingly beautiful spike, tall and well furnished with large velvety flowers of deep blue and purple brown colouring. Award of merit to Mr. Watkin S. Samuel.

D. Winsome.—A perfectly single flower of Reckitt's blue colour relieved by small spots of heliotrope towards the tips of the petals. The spike is tall and shapely. Award of merit to Mr. Watkin S. Samuel.

D. Glorious.—This variety was not to be found in its appointed place or elsewhere, but an award of merit was given to Mr. W. S. Samuel.

D. Cambria.—A fine spike of beautiful Cambridge blue flowers with ample mauve centres. Award of merit to Mr. Watkin S. Samuel.

D. Mrs. Christie Miller.—This has a moderately sized but perfectly proportioned spike of single white flowers which have just the slightest touch of pale yellow in their centres. Award of merit to Messrs. Blackmore and Langdon.

Polystichum erectum.—This is the first erect form of P. angulare divisilobium plumosum densum and is a remarkably handsome hardy Fern of soft green colour. Award of merit to Mr. A. Perry.

Odontioda Magna Rubra.—This was the most beautiful of the new Orchids. Its chief attraction to the specialist was the unusually full shape of the flowers, but to the general garden lover it was the graceful spikes of rich carmine-rose blooms that fascinated. First class certificate to Armstrong and Brown.

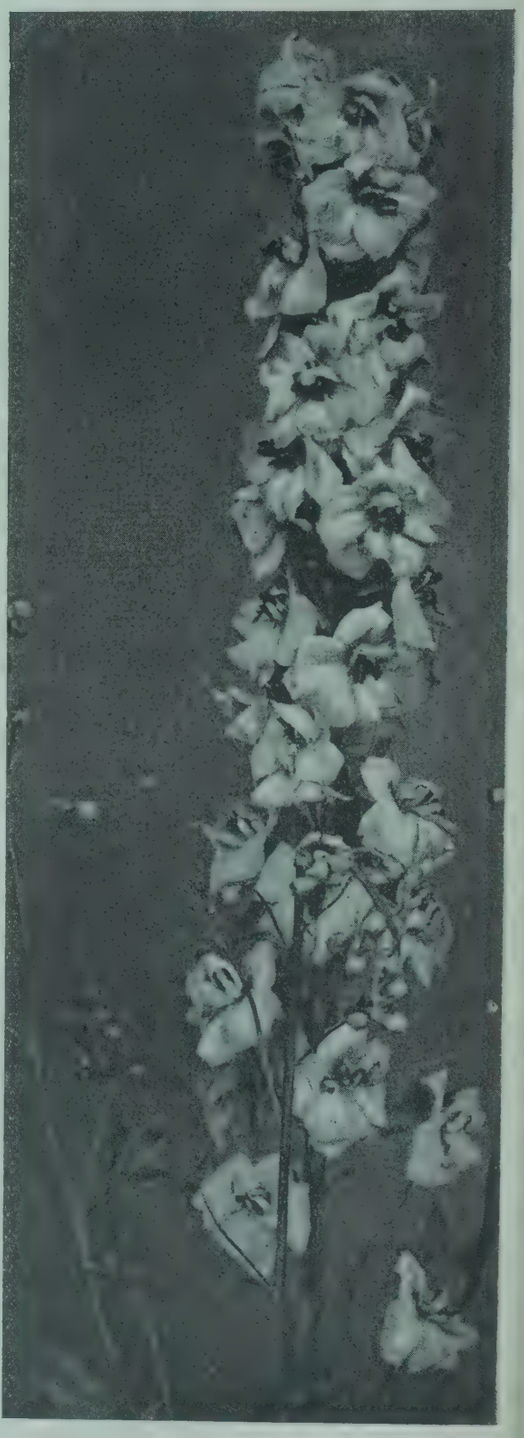
Lælio-Cattleya Soulange Ralli's variety.—A particularly handsome hybrid, nearer to Cattleya than Lælio. The flowers were very large, with beautiful bright mauve perianths and velvety crimson lip, with a touch of old gold at the base. Award of merit to Mr. Pantia Ralli.

NEW FRUITS.

Nectarine John Rivers.—This handsome fruit is of excellent flavour and the award will be confirmed if the sub-committee approve of the tree. A cross between Peaches Duke of York and Peregrine, it is recommended for its high flavour and cropping qualities. It is very early, being in season with Cardinal. Award of merit to Rivers and Sons.

Cherry Ursula Rivers.—A seedling from Emperor Francis. It is a large black fruit with a lustrous skin, small stone and is of high quality. Award of merit to Rivers and Sons.

Melon Althorp Park.—This handsomely netted Melon is of medium size with pink flesh. The flavour is said to be first rate. Award of merit to Earl Spencer.



DELPHINIUM JENNY JONES.

GARDEN NOTES FROM A WESTERN SEABOARD

BY SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

IT contributes to success in reconciling certain exotics to our normally sloppy soil and cloudy climate if one is able to visit them in their native environment. One of the spring flowers which hitherto has set at nought our most sedulous coaxing is the bright Anemone palmata. We have tried it in shade and exposed it to all the sunshine that was to be had, but all in vain. A few flowers appear in the first season after planting; just enough to make one long for more; but the only subsequent symptom of existence consists in scattered, half-hearted leaves. Last May the secret of our failure was revealed to me during a journey by motor from Lisbon to Badajos. Between Setubal and Casa Branca the road—or what the freakish imagination of Portuguese local government designates a road—passes over an elevated moorland plateau. Here the bewildering variety of wild flowers caused us to stop and alight several times At one place, even more arid and sunbaked than the rest, I came upon a wide tract thickly peopled with Anemone palmata. The foliage was nearly all withered already; only here and there remained a few blossoms, both yellow and white, all the rest had gone to fluffy seed. Three weeks earlier the display must have been very charming, for wherever I wandered on that scorched moorland there were remains of this pretty Windflower. The lesson was obvious. To succeed with this plant under British conditions the only chance consists in providing it with heavy soil in a sun-trap.

New species of Rhododendron keep crowding in from China, and Mr. Forrest assures us that the supply of fresh species has been no more than tapped. These, following upon a recent increase of interest shown in the older species from the Himalaya, have usurped a large measure of the favour formerly bestowed by amateurs on named hybrids. There is, indeed, no fear of the better hybrid varieties ceasing to be of great value for general decorative purposes; in public parks, for instance, and extensive woodlands; but it would be an advantage if some of the less desirable offspring of R. ponticum, caucasicum and catawbiense crossed with R. arboreum, should be suppressed altogether and withdrawn from commerce, especially those whereof the crimson bloom is more or less tinged with purple. On the other hand, some of these old hybrids are of great merit. Not only are the trusses individually of exquisite beauty, but aged bushes which have not suffered from starvation make a magnificent display. Among these I bestow special praise on Minnie, a hybrid of mid-Victorian date, worthy of a good place in the choicest collection. It is now, in mid-June, loaded with trusses pyramidal in form, the white corolla being stained by a great flame of orange tawny, spotted with chocolate. Given good soil and plenty of room, it grows to an immense size and forms a very striking feature in woodland.

The late Reginald Farrer, long to be lamented by all disciples of the gardening craft, was apt, so intense was his enthusiasm, to lavish praise upon herbs which failed to win esteem from more fastidious cultivators; but the enconium was no more than just which he pronounced upon "the priceless Linaria alpina, whose blossoms are so gorgeous in themselves and contrast so effectively with its fleshy little blue leaves." This is, indeed a treasure, well worthy of the simple attention required to ensure its permanence. Permanence, that is in the race, not in the individual; for although this little Toadflax is by Nature perennial, it strains its constitution so severely by profusion of bloom and seed that, in nine cases out of ten, it is unable to live through our long, cheerless winter. Seed may be saved and seedlings raised by the hundred, but the easiest plan is to encourage it to sow for itself. This it will not do satisfactorily unless the soil surface round the plant is renewed with a dressing of fresh, light loam and peat. It deteriorates in rich soil, but flourishes in a poor compost with plenty of grit. It is strange that in one variety the deep, rich violet and glowing orange should disappear and be replaced by a delicate flesh tint. Both the type and the variety are to be numbered with the choicest alpines, and under a lens of moderate power afford a feast of splendid colour.

Mr. Osgood Mackenzie, whose recently published "A Hundred Years in the Highlands," may surprise some readers by his description of the variety of exotics which thrive luxuriantly in his grounds on the West Coast of Ross-shire, writes to me (June 22) that the present month has been the most sunless in his experience of that district, adding it was raining hard at the moment of writing. Last year the conditions were reversed. While England and the Scottish Lowland were shrouded in gloom and drenched with cold rain, Highlanders basked in sunshine of Scandinavian splendour. Here and now in the South-West heat and drought have rushed things into and out of bloom at tantalising speed. Of the older Rhododendrons only the American R. maximum and R. viscosum are at their best.

Now that the shrubs of spring and early summer have shed their bloom it is well to note those species which succeed them. Among these there is none to compare in opulent colour with Rosa Moyesii, whereof the long arching wands are wreathed with blossoms of a hue difficult to describe, for it is neither crimson, carmine, scarlet nor madder brown, but a blend of all four, shifting accordingly as the sunlight is reflected from them or strikes through them. No need for coddling this noble wilding; it asks for no more than ample room to display its glory, which it does as generously as any Dog Rose.

For summer bloom in mild seaside districts, New Zealand furnishes many good things, though one might wish that white did not prevail so generally in their flowers. True, Nicholl's variety of Leptospermum scoparium is well set with ruby coloured blossom, and Chapman's variety with pink, but white, which is the negation of colour, greatly predominates. The snowy mantle of Olearia nitida has passed into a cloud of dingy fluff, but O. macrodonta and O. ilicifolia have veiled their silvery foliage with myriad Daisy flowers, to be followed later by O. nummularifolia and O. Haastii. But the pride of the woodland just now (June 28) consists in huge domes of Abutilon vitifolium, loaded with great cups of lavender. All this fine shrub requires in mild districts is shelter from wind, for its soft foliage and softer flowers are soon torn to tatters in such a gale as swept over us last May. Moreover, after growing vigorously and blooming lavishly for several seasons, this species is apt to expire suddenly, from no apparent cause; so it is well to

OLEARIA MACRODONTA, ITS SILVERY FOLIAGE VEILED WITH MYRIAD DAISY FLOWERS.

ABUTILON VITIFOLIUM LOADED WITH GREAT CUPS OF LAVENDER.

keep a stock of seedlings, for which it provides means in abundance.

Among the earlier flowering Lilies, drought and heat seem to agree well with L. monadelphum, which we have never had in such profusion. On the other hand, L. giganteum never put in so shabby a show. The spikes are few and stunted, notwithstanding a liberal administration of manure in early spring.

As surely as a single rabbit forces its way into the flower garden so surely will it make its supper on the choicest treasure. Accordingly, it is well that I was alone when I found that half of our only clump of Gladiolus tristis had been devoured during the night, for the vocables that escaped from my lips were not such as have hitherto been recorded in Hansard. We lost our original lot of this, the earliest and not the least elegant of all Gladioli, having ignorantly planted it in a damp, shady border in heavy soil; whereas it evidently relishes all the sun that we can give it and a deep, free loam.

God's Best Berry—The Strawberry

God's best berry should be available in the private garden for approximately four weeks. This can be assured only when correct steps are taken in propagation, planting and the selection of varieties. Salient points are set forth hereunder and growers who adopt them will be treading the right paths—those which lead to success and satisfaction.

THE preparation of the soil for the roots of plants is on all fours with the preparation of food for human beings, except that the foundation must be laid for a protracted period for the former, whereas it is for a day, or even less, for the latter. In specific respect of the Strawberry it is necessary to consider whether the order of cultivation is the usual three yearly cycle or whether it is restricted to one year, as has been proved infinitely better with some varieties and in districts whose atmosphere cannot be described as ideal for plant life of any kind. In the normal course, as obviously in their treatment as annuals, the first year should bring fruits strikingly conspicuous for their handsomeness, size and colour; the second year, almost the same specified merits, plus bulk; and the third year some marked loss in appearance, size and colour, with the heaviest weight. Quality of flavour is ignored because it is inconstant, varying with the direct harmony between soil and plant and with the weather, the last named to an enormous degree, annually.

Mechanically the working of the land cannot be too deep and thorough, on this point all are agreed. The Strawberry, as far as the fruits and the leaves are concerned, is highly susceptible to attacks of mildew; a disease which, if it is not the immediate outcome of something amiss at the roots, is almost invariably accompanied by that unsatisfactory condition of affairs. Extremes of dryness or wetness of the ground lead to defective root action, the plants become debilitated and succumb to the fungus enemy. Recognition of the fact that the greater the depth of ameliorated soil the more stable will it be in water content—it does not become water-logged readily on the one hand or dry out quickly on the other hand—has lead naturally to the acceptance of the rule to provide a deep, physically excellent root run, if such be within the bounds of practicability, which, it may be said in passing, is by no means always the case.

Simple digging or bastard trenching will not, however, yield sufficient food for these plants, though my conviction has long been that Strawberries are planted in soil which is at once far too loose and much too generously enriched with natural manure in many private gardens. The old saying that "the life of a Strawberry plant is a short one and the grower should spare no efforts to make it a merry one," should be honoured in the breach, not in the observance. A medium which is overdone with organic manure and is loose will favour a plant with excessively luxuriant leaves, which will be more than normally liable to mildew; the crop will be heavy and the individual fruits large, but there will not come the richness of flavour which characterises the fruit from the thriftier plant grown on the firmer, poorer ground. The object of the cultivator should be to strive to provide exactly the right quantity of the most suitable food. Since it is very easy to add nutrient matter to soil in the event of necessity, while it is impossible to take it away in the case of excess, any error should be on the side of shortness, because this can be corrected.

The importance of firm, to the point of hard, planting with the crown on a level with the surface cannot be doubted if lessons have been learned from the teachings of experience. Avoid crowding the roots in a circumscribed area, with hard surrounding walls, by all means, but when they are in the hole formed by trowel or handfork, let the mould be literally packed round and beyond them. Given the requisite equable moistness, this will go to early and excellent establishment and to proportionately satisfactory returns. Grouping all soils, conditions and modern varieties, a distance of 15ins. in all directions can be advised, but individual growers will make such modifications as their judgment directs in view of their own peculiar positions. After the first crop has been harvested, each alternate row and each alternate plant in the rows can be cut out to allow 30ins. all ways for the second and third seasons.

For all practical purposes the Strawberry ceases to make valuable new roots at the end of September, sometimes a little earlier and sometimes a trifle later, according to circumstances. It should then be the endeavour of the grower to plant as early as possible to secure the longer period during which perfect rooting may proceed. No matter whether the plantlets are in the alleys, in small pots or in inverted turves, they should go to permanent quarters immediately that they are thoroughly rooted. If they can be moved at once, let it be done, and in all instances spare no efforts to finish the work by the end of August, as the sooner completion is reached the brighter will be the prospects for the coming year. The weather may be dry, if so, heavily soak the sites of the plants ten or twelve hours beforehand and all will be well.

There is a saying which implies that fools venture where angels will not tread, and the writer about Strawberries who states distinctly that Francis and Frances are unquestionably the finest varieties in cultivation is qualifying for rightful inclusion among Thomas Carlyle's great elect. The brother and sister may be everything that is amiable in his case, but, on the other hand, they may be exactly the reverse in mine. Speaking for myself my present quartet is King George, Admiral, Laxtonian and Laxton's Latest which in their turns provide quality and quantity on plants of strong constitution. It is, however, unwise to continue home propagation too long as loss of vigour always steps in and some fresh stock of each comes annually, mainly for purposes of increase. Further, there must be some varieties on probation yearly, to qualify for honour or the rubbish heap as the case may be. In this group my highest hopes centre in Sir Douglas Haig, Admiral Beatty and Marshal Foch, which have covered a very long season abundantly and the flavour has been warmly appreciated. Readers of THE GARDEN who have not had these should procure them forthwith, as if the conditions favour them their numbers will assuredly be increased greatly on next year's proof. W. H. LODGE.

MARROWFAT PEAS IN LATE AUTUMN

Green Peas cannot be ready too early in the season and the succession cannot be maintained over too long a period. Gathering ought to commence in June, and if it continues until November satisfaction should be complete. To secure the latest crops it is necessary to sow varieties such as would be sown for the first summer supplies, and the followiug notes explain how these can be utilised to conspicuous advantage.

TO grow fine plants of Peas, notable for strength, freedom of flowering and absence of mildew, which will yield generous gatherings during the second half of October and the first half of November should be an object of every gardener. May sowings of recognised late podding varieties are made regularly, but there can be no certainty that they will go forward in perfect health to the desired lateness. There is an inherent susceptibility to mildew, which will develop with weather extremes—even without this apparent cause in some years and gardens. The disease is always difficult to cure, and not infrequently it is found quite impossible to check it; in such circumstances all hopes of returns must be abandoned.

These sowings should come in the ordinary course of routine as they justify themselves over an average of seasons. At the same time certain production of the crop is so eminently desirable that special measures ought to be taken in every garden. They comprise careful consideration of the soil, the time of sowing and the varieties selected.

Sites are constantly falling vacant in the vegetable garden after the advent of July, and it is not material which is chosen, provided that its immediately past crop did not come in either the Pea or Bean family. A deep, cool root run is imperative, and it must be in good heart. Therefore, dig as deeply as possible and ensure friability as the task proceeds. Thoroughly rotted manure ought to be incorporated, but it must be used with discretion, because an excess will favour grossness in the plants and rampant spread of mildew if the disease occurs. Following working and enriching, must come firming, which is essential to success. Given sufficient time the ground will, of course, go down naturally, but it is almost invariably necessary to tread it heavily on a light and gently on a heavy land, varying, too, according to dryness or wetness at the moment.

Triangular drills cut with the heel of a hoe must be avoided when sowing, as neither germination nor progress is really good therein. Flat-bottomed

trenches about 9ins. wide for a double line of plants are infinitely to be preferred, and the seeds should be set at least 3ins. asunder down each side, 1in. from the edges; the depth of covering—which should be, similarly to the soil beneath, firm—may be about 2ins. If the soil is very dry the trench ought to be soaked the evening prior to sowing, and where mice are a source of worry it is a wise precaution to coat the seeds thickly in red lead by damping them with oil or water (the former is the better) and shaking them vigorously in a tin containing the dry red lead in powder. Approximately the most favourable time for sowing is the end of the third week of July, but a few days earlier or later will make no measurable difference in the results.

Whether the particular varieties grown make much difference I am unable to say from personal experience, since it has not been my good fortune to be able to make an exhaustive trial. I incline to the view that any early variety which develops and fills its pods rapidly can be advantageously chosen for this purpose. My gratifying results have been secured with Witham Wonder, a variety growing to a height of 2ft., which is, most probably, procurable from any seed merchant. A great recommendation in its favour with me is that it demands no supports, though it is conceivable that the returns would be superior if these were provided. This season my varieties will include Peter Pan, 1ft., and British Lion, 3ft., in addition to the unfailing standby already named.—L. W.

CORRESPONDENCE

THE LOW RAINFALL.

IT would be, I think, instructively interesting if readers of The Garden who record the rain, either for their own information and interest or for inclusion in the valuable tables compiled by the British Rainfall Organisation, sent their readings to the Editor at stated periods for publication. I have just made up my book for June, and in view of the protracted drought I went back over the three completed years during which I have recorded for the above Organisation. In the last month the measurement was .28in.; in 1920, 1.27ins.; in 1919, 1.04ins.; and in 1918, .4in. This does not, however, emphasise the severity of the drought to the same degree as the records for the six months ended June of each year, which are: 1921, 5.58ins.; 1920, 10.92ins.; 1919, 12.71ins.; and 1918, 12.08ins. My garden is, therefore, 5.34ins. short compared with 1920, 7.13ins. short compared with 1919, and 6.5ins. short compared with 1918. The heaviest fall recorded in one month is 5.94ins. in September, 1918, or .36in. more than in the completed six months of the current year. We lie here in the "dry belt" of England, and our soil varies from a light sand to heavy clay over a deep bed of Oxford clay. The Secretary of the British Rainfall Organisation informed me a short time ago that the average rainfall for this district during the past thirty-five years is 24.5ins. per annum.—Horace J. Wright, *Ampthill.*

A WARNING ABOUT AZOLLA CAROLINIANA.

I WOULD most earnestly warn your readers against the introduction of this pest into their gardens—even in a bowl in a greenhouse. It appeared uninvited in my water garden some years ago—probably introduced with Irises from Holland. It rapidly covered the whole water with a dense mat, survived three winters uninjured and was only finally destroyed by repeated skimmings extending over four years. The danger of this plant can be seen by any visitor to Holland. Some years ago a scientist at Leyden grew a plant of it in his garden pond, whence it escaped into the neighbouring canal. To-day hundreds of miles of canals are blocked with this weed, navigation is impeded and incalculable expense entailed in the so far fruitless attempts at its extermination. I trust that English waters may escape this scourge.—H.

A BEAUTIFUL WEED.

REFERRING to the interesting note on the Epilobium angustifolium which appeared in The Garden of July 2. It is perhaps more suitable for the shrubbery than the garden border, where it is most useful, as it will provide a wealth of colour when growing in the densest shade. It is not every one who finds pleasure in the somewhat harsh cerise tint of its flowers, but the calyx and flower stalks are scarlet, forming a daring colour combination. But my real object in writing is to remind readers of The Garden that there is a beautiful white form of this Epilobium, and no plant is more graceful and refreshing than this when seen against some green shady background in the wood or shrubbery.—H. H. Warner.

A FINE BELL-FLOWER.

A BEAUTIFUL perennial that needs protection and patience to attain results, but well repays them, is Ostrowskia magnifica. Nature rested content when she had produced but one

THE CHASTE FLOWER OF THE OSTROWSKIA.

species of this truly magnificent flower—magnificent in its size and colour and magnificent in its stature. If you are lucky enough to possess a plant that is happy in its conditions, it is now at the zenith of its perfection and makes a picture before which any flower lover must bend in reverence. Unfortunately, it is not an easy plant to grow until the right position and conditions are found, but then the glorious campanulate flowers repay everything. There can be no doubt that the plants dislike cold and wet in winter, though it is probable that they more often die from the latter than the former. On the other hand, the roots dislike a very hot dry soil in summer, the spot that gives the greatest probability of success being south or west as to aspect where the roots are shaded by a shrub or some other dense growing plant that will assist in keeping them cool. These roots, which are tuberous, are extremely brittle and must be handled with great care when planting. A deep hole should be made in the border with a crowbar and filled in with sharp sand round the root, leaving the tip of the tuber about 3ins. below the surface. If the planting is done in autumn, the roots should at once be covered by a thick layer of litter, but, on the whole, it is preferable to plant in spring. Curiously enough, they do not resent division and can be propagated by this means in March without any difficulty, although this is not a thing to do if it can be avoided, as it usually checks flowering for a season or so. During the summer do not let them lack moisture in spring and early summer. Watch for the appearance of the shoots, and if, as so often happens of late years, the earlier part of the season is rainless, soak them well once a week. Really soak the soil, so that the water penetrates right down below the furthest tip of the root, and then leave it alone until—by pushing down the finger—one is satisfied that more is actually required. They flower most freely in warm districts, and this gives a very definite hint not to be constantly lowering the soil temperature by saturating it with cold water. Like the Lilies, they love to have their feet cold and moist and the head in bright sunshine, but always one must be content to wait for results until the tubers are firmly established. When the flowering stage is reached, the sturdy stems run up to a height that varies from 3ft. to 5ft., with dark green foliage crowned at the top by a number of the large, open, pale mauve bells, so well shown in the accompanying illustration.—H. W. Canning Wright.

ROSE PRINCE OF WALES.

IN your report of the Clay Cup award to Rose Prince of Wales I notice the statement, "the foliage suggests a susceptibility to mildew." In fairness to the raiser of this splendid garden Rose, I write to say I have seen Rose Prince of Wales growing in quantity at Danecroft Rosery—last year late in September, this year early in May and on June 25 last. I have never seen the slightest trace of mildew either on foliage or wood.—H. R. Botwright.

A ROSE WHICH LIVES UP TO ITS NAME.

AMONG the climbing Roses I grow none is so highly appreciated as the semi-double creamy white variety Trier. I first became acquainted with it by seeing a note praising its good blooming qualities soon after it was introduced, and the following autumn purchased a plant. I have never regretted doing so, as I know of no Rose that lives up to its name as this does. When I say that from May until October without any interruption and with little diminution one may cut huge clusters—eighteen to thirty blooms on each—and sweetly scented withal, it will be understood that Trier is something out of the ordinary. It has never once failed all the years I have had it. This year flowers came in May, and I doubt not it will go on blooming long after others have ceased. On more than one occasion nice clusters have been gathered as late as November, as it is planted on a border shielded from the north and east. Trier must not be confounded with Rambler Roses, such as Dorothy Perkins to name but one, which are brilliant for a brief

time only, but are too luxuriant in growth to please all: in fact, Trier is an ideal pillar Rose of moderate growth with a propensity for blooming. Some Roses smother the garden with long, ungainly suckers, which are not always easy to negotiate and deal with, especially in a small garden. Trier is not like this, it is a beautiful Rose, very fragrant, and is always endeavouring to create fresh visions of loveliness about a garden, hence its name. I would add that it is easily propagated from cuttings taken in autumn, and I have struck many in this way.—W. LINDERS LEA.

LIME AND BEARDED IRISES.

DR. OSBURNE'S letter in your issue for July 2 seems to call for some reply. So far as I know, the facts are these. In limestone districts and in soil that is strongly impregnated with lime, Irises do not seem to suffer from rhizome rot. At any rate, I have never seen any signs of it in the limestone countries where I have found Irises growing wild, nor in those gardens where the soil is chalky. On the other hand, bacteriologists tell us that the bacteria which cause the disease thrive in an alkaline medium, but cannot withstand acid. It seems, of course curious that lime should encourage the bacteria and yet that plants growing in a limestone soil should not be subject to the disease; but this is possibly because lime is so essential to the plants that if there is not plenty in the soil they are unhealthy and therefore, in our gardens, fall victims to the disease imported with other plants from elsewhere. If Dr. Osburne was able, when he found signs of the disease, to remove every portion of it, then, of course, an application of lime could not spread the disease; but certainly my own experience has been that it is safer to apply in the growing season a dressing of superphosphate of lime, which gives an acid reaction and is, therefore, fatal to the bacteria responsible for the disease. Most growers will agree that the disease is more prevalent in the growing season than in winter, and it is, therefore, safer to apply chalk or lime during the winter and then give superphosphate during the growing season. Basic slag is, of course, beneficial, for it supplies the lime and phosphate in addition.—W. R. DYKES.

BIRDS IN THE GARDEN.

"SOMERS" delightful contribution (page 330) inspires me to say a word on behalf of the thrushes. At all times these are welcome visitors here, but never, never do we feel quite so grateful to them as during a period of drought. For it is then, luscious insect life being nearly as scarce as it is when the earth is frost bound, that the thrushes live almost entirely on snails. At any time during the long hot days we have lately had you could hear in the woodland, in the ivied bank, among the bigger things of the rock garden, even amid the Clematis and other wall plants, the rustle of busy thrushes rummaging among the dry leaves for the cowering snails. Then what more cheering sound in these silent, sultry hours of noon, when the garden lay helpless beneath a withering sun, than the "rap, rap, crash!" of some hapless snail being done to death on the thrush's anvil? In a dozen different places one can relish over again the proof of this blessed destruction, the slimy stone and its accompanying heap of shells.—J., *N. Wales.*

A BEAUTIFUL LILIACEOUS PLANT.

I WAS interested in the reference by Mr. Elwes, on page 309, to Nomocharis pardanthina. During the spring there flowered at Wisley a plant bearing this name, but differing in some respects from the illustrated description published in one of the Royal Horticultural Society's Journals for, I think, 1916. The two photographs enclosed are of the same plant, the larger (illustrated) being exactly life size. The colour was white, with purplish brown spots and the flower was an extremely beautiful thing. Would you be good enough to find out from Mr. Elwes whether he considers this the same as his N. pardanthina. Their beauty, hardiness and the fact that they belong to a genus new to this country suggest that they may arouse considerable interest when they are more widely known.—A. E. SIMS.

[The photographs were submitted to Mr. Elwes who very kindly suggested their submission to Professor Sir I. Bayley Balfour, who identifies the photographs as N. leucantha (Balf. f.). This plant was collected by Mr. Forrest on the Tali Range in Yunnan, both in 1906 and 1910. "The chief points of difference between this species and N. pardanthina are a more robust and taller plant; the much longer and broader acuminate leaves; the white flowers with all the segments spotted purple or maroon." The above is taken from a reprint of Transactions of the Botanical Society of Edinburgh, Vol. XXVII, Part III. The Nomocharis are a very interesting race of plants, closely allied to Lilium and Fritillaria and will, we hope, in time be in general cultivation. Should they yield to the efforts of the hybridist a very valuable race of plants should result. Nomocharis pardanthina (Franch) was illustrated in THE GARDEN of June 14, 1919 (No. 2482).—ED.]

A NEW ASIATIC FLOWER—NOMOCHARIS LEUCANTHA.

DARWIN TULIPS IN PARTIAL SHADE

LAST autumn I planted some clumps of Darwin Tulips at the back of a narrow border which contains climbing Roses on arches and Munstead Primroses. About twelve bulbs were planted in each clump, and this spring they were a constant source of pleasure. Not only were the blooms good, but the great point was the length of time they lasted in full beauty, the secret being the partial shade of fruit trees to the south of them. One clump especially—of Professor Rawenhoff—seemed as if it would last for ever; all the flowers of the same kind in the open were cut or faded and almost forgotten before a petal had fallen from this favoured group. Here is a hint for planters this autumn: there must be many spots in either flower or kitchen garden of a similar nature—partly shaded by deciduous trees—where a few clumps of these gorgeous Tulips might be planted and give a much longer display than if exposed to full sunshine. A spot must be carefully chosen; it would not do to plant in soil which was overrun with the roots of large trees, for the Tulip likes a good rich soil, though not partial to raw stable manure applied at time of planting.—J. DUNCAN PEARSON.

SPANISH IRIS L'HONNEUR D'OVERVEEN

I DO not remember to have seen this variety of Spanish Iris catalogued in any of our English lists, although so long ago as 1912 L'Honneur d'Overveen received an award of merit at Haarlem. I am rather surprised at this because it is so very distinct, and distinctness in a race which has been in gardens for over three centuries and has all the time kept renewing its youth by seminal varieties is something to be noted. In one way it resembles L'Unique, for it is a distinct bicolor, but instead of being a purple-blue and white, it is a pretty mauve and yellow and to give it additional distinctness, not only are the standards mauve, but also the jaunty upright ends of the style branches which are placed immediately over the yellow "falls," partake of the same colour, which is unusual. The effect in the garden is good and the same is true when it is used as a cut flower. Here again there is a connection between it and L'Unique, which is exceptionally pleasing when used in vases. —JOSEPH JACOB.

EVIL-SMELLING FLOWERS.

I WAS delighted to read Sir Herbert Maxwell's remarks in a recent issue of THE GARDEN upon the odour of Lilium pyrenaicum, for the opinion of such an excellent anthority will doubtless go far towards the removal of a foolish prejudice against a really fine old woodland plant. There may be a few subjects, Codonopsis ovata to wit, which will hardly bear olfactory investigation at close quarters, but it were surely as ill-guided to decide upon the quality of a flower's scent by contact, so to speak, as it were to measure its colour and grace with the aid of a magnifying lens. Then why make a wry face when one mentions L. pyrenaicum, the Alliums, Crucianella stylosa, or anything else which is liable to offend some nose at close range. A waft of Philadelphus purpureus, as you pass it by in the cool of the evening may call to mind somebody's macassar oil, or other fragrant unguent of the tonsorial parlour. But one cannot cast the plant into outer darkness for that. A decently controlled

philosophic nose, a nose finely sensitive yet of catholic vision, shall we say, will never raise a tilt of offence at any individual flower perfume. In any case the effect of one or other perfume upon us is largely governed by association or sentiment. For example, I once knew a man, a strong man too, who was so suddenly overwhelmed with home-sickness at the knock-out blow of a Skunk Cabbage, that he almost prostrated himself before that forbidding vegetable.—A. T. J.

TWO DROUGHT-LOVING PLANTS.

IN these days of desperate drought, when nearly all plants are wilting before one's eyes, it is good to see two things that seem to like nothing better than continual baking. Romneya Coulteri, originally a plant with a single stem, was placed in a sheltered bay near a south-west wall. It is in a border about 8ft. wide, with a path in front. After being some years in place it has gradually spread till it nearly fills the whole border. Not content with this it has burrowed under the 4ft. path and come up in some Rose beds on the further side. It has been necessary to drive in stout stakes and fix horizontal laths to form a railing on each side of the path in order to be able to pass along. The whole plant is now in full flower. There are between sixty and seventy blooming points bearing the great white Poppy-like flowers 5½ins. across, decorated with the 2in. wide tuft of orange stamens in the middle. The air all round is sweet with their Magnolia-like scent. Besides the blooms now out, there is promise of much more to come, for each shoot has from one to five buds on laterals immediately below the terminal flower. All round the Romneya was a large group of Alstroemeria chilensis, now mostly hidden by the invading Romneya, but a further bay with the same warm aspect has Alstroemeria alone, also rejoicing in the drought. The roots have gone down deep into the light soil and their heads are revelling in the strong sunshine. They are all shades of pink, rose and red, and of warm white buff and orange, with dark stripes on the two uppermost petals and sometimes on the lowest ones of the five. The two side petals, which are of wider shape, are always without stripes or anything but perfectly pure colour. They are most satisfactory flowers for cutting, lasting long in water and even improving when they have been for two or three days in a room.—GERTRUDE JEKYLL.

IRISES: ENGLISH AND SPANISH.

IT is a question upon which a difference of opinion exists as to whether it is necessary to lift every year the corms of either English or Spanish Irises after they have ceased to bloom and the foliage has died away. I am acquainted with growers who do so regularly, but with what advantage I am at a loss to gather. I have not found it needful to do this every year, and unless one requires the ground they occupy for something else, cannot see that there is anything to be gained in so doing. Usually I sow between the groups annuals like Nigella or Linum or Gypsophila, and by the time the "grass" of the Irises has died away the annuals are nearing their blooming period. I suppose it has been the common experience that these Irises—as with many other things—have been found to bloom earlier this year, and owing to lack of moisture they have not grown quite so tall.—L. W.

FORTHCOMING EVENTS.

July 20.—Cardiff and County Horticultural Society's Annual Exhibition (two days).

July 22.—Birmingham Horticultural Society's Annual Exhibition.

July 26.—Royal Horticultural Society's Meeting, in conjunction with which will be held the National Carnation and Picotee Society's Annual Exhibition

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Herbaceous Borders.—Some of the more conspicuous plants for early work, such as Delphiniums, Lupines, Pyrethrums and Anchusas will now be past their best and should be cut over, and if possible, at the same time other plants should be introduced into the borders to fill up the gaps. This entails a considerable amount of labour and cannot be attempted in some places, but where it is practised, such plants as Campanula pyramidalis, Liliums, Heliotropes and early flowering Asters all make suitable material for pot culture for this purpose. Delphiniums may be induced to flower quite freely again later in the season by cutting the plants somewhat hard back, but unless the plants are really vigorous and are thoroughly well looked after, it is not a practice to be carried out annually, for it takes an immense amount of energy out of the plants. Pyrethrums also afford a good second supply of flower if cut over directly the first blooms are on the wane. It is very important, however, in times of drought not to deprive the plants of too much foliage at one time.

Sweet Peas.—Pods should be removed and the plants given a good watering occasionally, and if the soil is light, labour may be saved by applying a mulching of rotten manure and leaf soil to lessen the necessity of further waterings.

Stocks of the East Lothian and Brompton type will germinate freely if sown now in a semi-shady position. When large enough the seedlings should be transplanted in 5ins. or 6ins. of soil, made fairly firm in a cold frame. Pricked out thus it will be quite an easy matter to give the necessary protection during the winter months. Some excellent plants for potting up later on for conservatory work will be available from this batch.

The Kitchen Garden.

Celery.—The unusual hot, dry spell has been greatly against Celery getting a good start and constant attention to root watering and syringing overhead is necessary to enable the plant to make a quick, clean growth. To keep maggot in check, dust the plants frequently with soot, and spray alternately with soot and salt water. Although it somewhat mars the appearance of the plants for a short while, hand picking of the badly infected ones must be practised. The late batch should be got in now as soon as convenient.

Winter Greens.—The planting of all kinds of Winter Greens has been carried out under most unfavourable circumstances, and on light soils it is difficult for the plants to get a satisfactory start where watering cannot be regularly seen to. The constant use of the Dutch hoe is one of the greatest factors towards success in this direction, and where labour is available, it can hardly be used too frequently.

Autumn Sown Onions may be lifted as soon as growth is completed and should be thoroughly ripened off before removing them into a cool store room.

The Hardy Fruit Garden.

Summer Pruning.—This operation is necessary and advisable, not only for the benefit of the present crop, but also for the future well being of the trees, and incidentally, where it can be properly dealt with now it considerably reduces the amount of pruning which otherwise would have to be carried out, under much less favourable climatic conditions, during the winter months. There is no gain though in being in too great a hurry, for it only creates a tendency for a lot of secondary growths to be made. It is best to deal with the trained trees, such as cordons and espaliers first, and finish with pyramids and standards. No hard and fast rule can be laid down, but the young wood of Apricots and Peaches must be carefully regulated, but not too thickly laid in, to provide fruiting wood for another season. Where spur pruning is followed, it will be sufficient to leave from four to eight leaves, according to growth and balance of the tree. Main shoots of Apples and Pears running away too vigorously may have one third removed. Old trees should be encouraged by laying in or retaining, as the case may be, good young growths, for while making headway at the top, we may be sure the roots are also active, a great factor in all old fruit trees.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Leeks.—The desired quantity of Leeks for the principal planting must be got out forthwith so that ample time may be given them to develop into good-sized and well blanched specimens before the winter months. In a great many establishments Leeks follow in the wake of Broccoli, and the rotation suits quite well provided the ground is heavily manured, as both are gross feeders. Where accommodation is limited useful crops of Leeks may be taken off the space occupied by early Potatoes.

Vegetable Marrows must be kept well supplied with water, especially those planted on narrow ridges. In the case of others planted on manure heaps the need for watering is not so great, as it often encourages an over-luxuriance of growth with subsequent waste owing to non-productive blossoms; rather, thin out where growth is dense and allow light and air free play among the remaining growths.

Shallots.—Beds of these now ripe may be pulled and laid on a sunny spot to dry for a period before storing. We find the ordinary light coloured variety does best with us, being much more prolific than the large red.

Brassicas are now growing freely so should receive generous cultivation between the rows before finally drilling up. We find the regular use of the Buco cultivator is most helpful in encouraging a vigorous growth.

General Work.—Attend to the thinning of successional sowings of Turnips, Lettuce and other such quick-growing crops. Sowings of small-growing varieties of Turnips may still be made and will produce nice tender roots for autumn use.

Fruit Under Glass.

Melons.—Allow abundance of air to plants that are ripening their fruits; while water should be partly withheld, although care must be taken that they are not dried off entirely. Successional lots in pits should be attended to in the way of regulating the growth, always watchful that no overcrowding takes place. Pinch the shoots a joint or two beyond the fruits and always fertilise the blossoms so that a good set may be assured. Plants bearing good crops should be assisted occasionally with liquid manure.

Vines.—It is essential that all late keeping Grapes be well thinned so that the berries have plenty of room to develop. Ventilate the houses freely during fine weather and keep the roots in a nice moist condition. At certain periods some vines are subject to scalding, and it is wise in this case to leave a chink of air on throughout the night.

Pot Fruits.—Trees which have been relieved of their crop should be removed to the open and placed in a slightly sheltered spot. It is best, where circumstances permit, to plunge the pots in ashes or rough leaf-mould so that the roots are less likely to suffer from drought; they also enjoy the coolness of the plunge. Treat the trees liberally so that plump buds are developed for the following season's crop. Syringe occasionally with Quassia extract to free the foliage from insect pests. Later crops must be carefully attended to by watering and feeding. There is a natural tendency to over-crop, but avoid this as it is ruinous to the future welfare of the tree and the fruits are generally only of moderate quality.

The Flower Garden.

Sweet Peas.—These are now flowering freely and growing vigorously, the advantage of a prepared trench being most noticeable. Where well rotted manure was incorporated with the other material in the trench the plants have been more able to withstand the drought. On light soils a mulching of litter placed on either side of the rows is of benefit as a stimulant and also restrains evaporation. Do not allow seed pods to ripen on the plants as this retards growth.

The Herbaceous Border.—Persevere with the tying and staking of the various subjects in the hardy border; cut away withered stems and keep the borders as free from weeds as possible, as this undoubtedly lessens labour at a later date. Where strong heads of Michaelmas Daisies are desired it is best to thin out the growths freely. Oriental Poppies have made a great show this season

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock

TOWN GARDENS AND THEIR POSSIBILITIES

AS a rule town gardens do not convey a very enticing picture to the mind's eye. They are generally associated with soot, Ivy, moribund shrubs, anæmic grass patches and cats, with possibly a glass structure of a nondescript type, hiding its identity as a lumber room or play house, under the name of conservatory. Granted that town gardens, more especially London gardens, are depressing places—even the gardens attached to fairly large houses are often most cheerless, neglected and forlorn—there is no reason why, with a little thought, time and care the majority of them should not be changed into things of beauty and joy during the summer months, and it has for a long time been my earnest endeavour to instil some enthusiasm into the owners of these waste spaces.

In the past the smoke-laden atmosphere of London has deposited layer after layer of soot and cinders over everything out of doors, so that the soil has become acid and unfertile and the pores of all vegetable life choked up with carbon and the excessive quantity of carbon di-oxide in the air. Well, these conditions are passing quickly. The era of gas fires, electric light and heat and the substitution of oil for coal are working wonders with the atmosphere of London and other big cities. The coal strike will no doubt accelerate the change. The conditions so unfavourable to flowers and plants in London gardens are rapidly passing and the chances of producing gratifying results are, even now, 50 per cent. greater than they were a few years ago. The gardening instinct is latent in most of us; at one time or another in one's life it bubbles up, and we long and crave for a garden, for flowers, for some result of our own labours.

Let no one with a town garden be disheartened—just look around everywhere you go by train or motor and see what is grown in back yards on a window-sill, or in a few pots in a narrow window-box where attention to details such as watering and feeding are works of love and joy and realise that as you are not similarly handicapped your larger opportunities should give greater success. Almost every London garden which is not quite enveloped in dripping trees can be made to produce an abundance of flowers worthy of the effort put forth.

Almost at once I hear that word of ill omen to London gardeners whispered from every quarter—"Cats!" Yet granted that cats are a bane to the town gardener, even cats can be circumvented. Next in order of destructive agencies comes the cheeky omnivorous sparrow, but a little *red worsted or wool* (*not* black cotton, in London gardens please!) will effectually remove the sparrow's obnoxious presence.

Drip from trees or buildings is exasperating and annoying, so is soil consisting of brick-bats, mortar rubbish, dirty gravel, and soot, to say nothing of dingy Aucubas, anæmic Hollies, Ferns that are in the last stages of decrepitude and other depressing influences. But let us once set our heart on changing these conditions—a legacy of the soot age now passing—and we can achieve, if not a paradise, at least something to be proud of.

It is surprising what a long list of flowers one can compile that will thrive in town gardens with no special soil and with the ordinary cultural skill of the amateur, and what fine effects may be obtained from small expenditure as long as the right subjects are selected.

For our purpose there is, perhaps, nothing to equal the Antirrhinum; different strains vary in height from 6ins. to 3ft. or more. It has an exceedingly wide range of colour, it stands drought it stands heat, is withal cheap and effective. It is at first sight surprising to find that Pinks and Carnations also flower well in town gardens; from the newer forms of the Carnation Pink delightful results may be anticipated.

Sweet Williams, Delphiniums and Hollyhocks, with most of the perennial Phloxes, are subjects that can be grown with great success. Shirley Poppies, sweet-scented Tobacco plants and Evening Primroses, if given plenty of room for the individual plants, will respond most encouragingly to the town gardener's efforts.

The question of manuring a town garden is one that needs perhaps a little thought. The soil in most town gardens is starved and sour, and to put a little heart into it and correct its acidity, few things are better than a liberal dressing of basic slag during the winter months. A liberal dressing in this case is about two good handfuls sprinkled on each square yard of surface. If basic slag is not available, obtain a bucketful of slaked lime from the nearest house decorator and dust it over the beds in the same proportion.

For summer use when the plants are growing and flowering, a dessertspoonful or two of any of the advertised plant foods dissolved in a water can and given once or twice weekly will be all that is needful.

Do not water your garden spasmodically—give it a good soaking once a week, going over and over it until the water finds its way to the roots of the plants, not merely damping the surface. Always water your plants with plain water before giving manure water.

Use farmyard manure liberally if obtainable, but do not dig in a lot of town manure, which, for all one can know, may contain petrol, creosote, shavings or other matter poisonous to vegetable life, or peat moss, which being acid, will probably add to one's troubles.

However miserable your garden may now look do not despair of making something of it; it is worth the effort. Every square yard has latent possibilities almost beyond belief Try what you can do with it; do not be disheartened at first failure. A little experience, a little help, which is always obtainable, will put you on the road to success.

S. WARREN HAGEN.

A Charming Alpine.—Luxuriating under precisely the same conditions as the Ramondias, the later-flowering Haberleas are a very choice addition to the rock garden. H. rhodopensis is a native of Greece, and delights in cool shade with the plants packed on their sides between small pieces of rock, so that—while the roots are able to penetrate deeply into a soil that is ever damp—no moisture can lie in the crown. During July the flower-stems push up and bear lovely Streptocarpus-like blooms from the centre of the rosette of foliage. A wonderfully beautiful form, of which the flowers are pure white, is H. virginalis—a colony of this well placed in cool shade against a background of dark greenery being one of the most fascinating pictures it is possible to imagine. Take care that the plants are not overlooked during spells of drought. Where water may be used it should be so freely once or twice a week. The rose should be off the can and the water poured slowly on to the soil from a point well above the plants, so that it slowly drains down and efficiently soaks through the whole of the soil. Return again half an hour later and repeat the application, and the Haberleas will then carry on happily for several days without more attention.

The Graceful Heuchera (H. gracillima).—All varieties of the Heucheras are indispensable garden plants, both for the border and rock garden, but this variety—though less commonly grown than many—is one of the daintiest of all. Special value is attached to it for its lengthy stem and its extended flowering period, for it lasts much longer than many. The full height is about 2½ft. with long slender sprays of tiny pink flowers that are ideal for mingling with the right shade of Sweet Peas in place of the universal Gypsophila. A point in the culture of the Heucheras is not to leave them too long without division. Left to themselves they form a gradually lengthening, woody root-stock that becomes brittle and snaps off during winter. Lift the clumps in early autumn, break them up and replant right down to the foliage. This can be done in spring, but autumn gives better flowering spikes the first summer. When you have them up, take a single crown and pot up in good loam and place in a cold frame until February. Five-inch pots are large enough to accommodate a good plant. When they show signs of renewed growth in spring, bring them into a cool house and water regularly and flower-spikes will soon begin to push up and give very perfect panicles of bloom that are most decorative for grouping with other early flowers in the conservatory. Light and feathery spikes of dainty colour—such as Heuchera gracillima provides—are invaluable among more solid flowers and a selection of varieties, grown in this way, forms a unique feature in April.

A Substitute for Stable Manure.—Potatoes planted in soil into which, for want of stable litter, we have dug in green manure withstand the drought better than those treated with artificial manure only. A good layer of grass or straw under the seed retains the moisture during the season of growth. With green manure and artificials quite as good results can be obtained as when stable manure was more readily available. Deep cultivation is of the utmost importance.

A Good Hardy Perennial. — Physostegia virginiana is too much neglected by planters of herbaceous flowers. It owes much of its value to its character and to the period at which it flowers. In older days it was called Dracocephalum virginicum, and still figures as that in gardens and many nurseries. It has, however, been renamed Physostegia. It possesses much of the character of the Dragon's Heads, but it is prettier than most of these are. It grows 2ft. high, less or more, according to the soil and position, and has ornamental spikes of numerous pinkish flowers resembling in form those of the Antirrhinum. They are not large, but their number and their arrangement upon the spikes enable them to produce a most pleasing effect. They are produced rather late in summer, a time when hardy perennials of this character are appreciated in the border. There is a very pretty white variety, P. v. album, which is not only good in the border, but is also favoured for cutting. Both of these varieties thrive in any soil of any garden value, and are as easy to grow as any other border flower. They are propagated by division and also by seeds in the type. Seeds of the white variety only come partially true.

THE GARDEN

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NOTES OF THE WEEK

[July 23, 1921.

IN this week's issue appears a series of articles on the genus Iris. We believe that this will gratify a large number of our readers, for the Iris, for long beloved of a small but discriminating minority, has at last achieved well deserved popularity. It is more than popular, it is fashionable. No flower ever attains or can attain popularity unless it possesses a variety of good qualities. In our day, at any rate, it must be an outdoor flower, and with the increasingly high average standard of taste, it must be beautiful, it must be suitable for the small garden as for the large; it must be of moderately easy cultivation and it must repay proper treatment. To the average gardener there is little joy in growing a plant that comes to perfection without effort by the grower. Now, leaving aside the inevitable controversy over the form of some of the newer Bearded Irises, few will question the real beauty of the family as a whole—a beauty of form and marking and of colouring. Some or other of the species are suitable for cultivation in almost all soils and in well-nigh every exposure Many of them, but notably the Bearded Irises, are of the easiest cultivation, but they will none the less amply repay understanding care. The devotees of this stately and gracious flower owe a debt of gratitude to the hybridisers who, with patient labour, have done so much to enhance the stature and grace of the Bearded varieties.

The Sweet Pea Show.—The National Sweet Pea Society had a wonderful display at its show at the Royal Horticultural Hall, Westminster, last week. The exhibits as a whole were fresh and clean and showed such health and vigour that it was hard to realise the difficulties with which growers have had to contend It is remarkable how soon everyone becomes accustomed to new discoveries and developments, whether in horticulture or elsewhere, and how readily in this particular instance we accept as natural and normal flowers so widely different from and showing such marvellous improvement as regards form, colour and size on the varieties we used to see exhibited, say, five and twenty years ago. What a pity it is that no preventive has, so far, been found for the disheartening Sweet Pea streak, which seems to become more prevalent year by year,

Regular Cropping of Fruit Trees.—We commend to the notice of readers the valuable article on obtaining annual crops of fruit from Apple trees in particular and all tree fruits in general. The raisers of cultivated fruits have by selection produced depth of flesh, excellence of flavour and a pleasing appearance, but these extra properties, so desirable from the point of view of the consumer and so unnecessary from the standpoint of reproducing the species, place a strain on the trees which, in a wild state, they had not to bear. Little wonder then that many sorts, concentrating all their energies on developing their fruit, fail to provide buds sufficiently robust to produce a crop the succeeding year, or that other varieties which, even under none too favourable conditions, crop annually, unless they be given special attention in summer, make less wood year by year, become unhealthy and often ultimately succumb to canker and other diseases. Fruit trees have the right to expect the attention which shall keep them in health and vigour.

Hardy Nymphæas in Difficulties.—Many conscientious gardeners dependent on public supplies have left their Lily tanks unreplenished Where these plants are grown in natural ponds the water has in many cases fallen very considerably or even totally evaporated. If the roots have been able to procure supplies of moisture and some shade has been afforded, no fear need be entertained of the recovery of the plants. Where the water supply has held, Nymphæas have done exceptionally well this season. Even the smaller growing sorts have increased in size more than usual and no doubt the effects of the favourable season will be yet more noticeable at flowering time next year. Where the water-supply has run short, unless the exposure has been very prolonged or very severe, the abundance of sunshine should ensure a satisfactory display. The subject of our illustration N. colossea is one of the largest and strongest growing varieties. Its petals are white with a beautiful suffusion of pink at the base. It has golden anthers. In general character it much resembles the, as yet, better known N. marliacea carnea but is larger in all its parts.

FREE-FLOWERING AND FRAGRANT. NYMPHÆA COLOSSEA.

A Misleading Statement Corrected.—Considerable resentment has been occasioned among nurserymen exhibiting at our leading shows by a statement which appeared in a contemporary. It was suggested that the public were deluded into believing that the fine exhibits shown at Holland House, Chelsea, and elsewhere were the produce of exhibitors, whereas they were, in fact, very largely made up of plants and flowers purchased for the occasion from wholesale growers. The incorrect impression which so sweeping an assertion is calculated to produce should be removed lest, if unchallenged, it should grow It is quite untrue that this practice is or ever has been customary among nurserymen properly so-called. There are always a number of exhibitors who are not, and in many cases, it must be owned, do not *profess* to be nurserymen, and in consequence are dependent upon the trade growers or the market. It is usually quite easy to differentiate between the two classes of exhibits, and but for the misleading statement referred to, it would have been unnecessary to make any comment

A FLOWER APTLY NAMED—THE IRIS

If you would enjoy colour that no art has ever produced, form that has failed both pencil and camera, a myriad effects of light and shade, harmony and contrast and every excellence of beauty that nature can bestow, you will find it in the Irises.

"THIS genus is very comprehensive in a numerous family of herbaceous flowering perennials, most of which are very ornamental garden flowers" This was written of the Iris just 150 years ago. I wonder what the writer would have to say of the genus to-day? How we should all love to spend a day in June introducing him to *our* Irises and getting him to compare them with those he knew. Would he rejoice with us? or would he echo the remarks of that complacent grandfather we all know: "Ah! things were different when I was a boy"? He might, and I think we should play the undutiful grandson, and reply: "Rather, granddad, and aren't you glad?" We of this generation have seen progress march on to victory and new achievement in many things. As children we heard the prophecy: "Carriages shall go without horses," and scoffed at it. To-day the motor car has nearly superseded the horse-drawn vehicle. We can remember the early efforts of the men who tried to fly and also their disasters. To-day the Aerial Mail between England and the Continent causes little sensation and no emotion of surprise. The introduction of penny postage was a thing worth remembering, and wonderful efforts were made to perpetuate its memory. To-day words and pictures are flashed through the air for immense distances, and we shall know to-morrow what has happened in America to-day. All these things are wonderful, little as we in our phlegmatic acceptance of the mighty results of human progress appreciate them, but not one of them is more remarkable than the advance that man, by utilising his discovery of nature's laws, has been able to bring about in the development of the genus Iris. One hundred and fifty years ago they were just "very ornamental garden flowers." To-day they are in a small coterie, with Roses, Tulips, Phloxes and Campanulas, that no good garden is without. The garden has its aristocracy, in common with human society of all times, and in its highest circles Irises will always have a place because they will always be able to maintain their qualifications in all that the aristocracy of the garden should possess.

Think of the uses to which they can be put and the positions they can occupy by virtue of their adaptability and beauty. Here is one picture. A golden afternoon in June. A "shadow checkered lawn" sloping away to the margins of thin woodland. Broad grassy ways lead the vision onwards towards clearings through which the distant landscape becomes focussed pictures. Between the trim niceties of mown lawn and wilder woodland the ground has been framed, as it were, to a natural wildness. Broad masses of Irises have been planted along each descending pathway, ordered in design only by the "art which conceals art." The vision is satiated with a perfect riot of colour and, if the Irises fail to give just the colour note required for a particular grouping, the defect is supplied by broad carpetings of Catmint (Nepeta Mussini). Stately Lupines assist the taller Irises in breaking up any possible monotony of contour, Erigerons supply pink and buff and lavender blue, and a wealth of grey foliage has been distributed with a lavish hand, all beautiful in themselves, but which so obviously take a subordinate place in association with the lordly Irises. Here is a soft colour group of rose amber and lavender purple formed by grouping Her Majesty, Miriam, Phyllis Bliss, Sincerity, Troost, Monsieur Aymard and Dawn with a grey carpeting of Artemisia Stelleriana. In a group near by is a purple and

A TYPICAL AND BEAUTIFUL JULY PICTURE.
Japanese Iris happily placed.

gold combination composed of the giant Lord of June, Othello, Tamerlan, Neptune, Emir, with a yellow Lupine and Iris Germanica aurea. Then there is a "sunset" group in which Eldorado, Iris King, Nuée d'Orage (Stormcloud), Nibelungen, Mme. Blanche Pion, Marsh Marigold, Honorable and Maori King mingle their wonderful and indescribable colours. At intervals there are smaller plantings devoted entirely to one superlative variety. Some that attain this dignified isolation are Lohengrin, whose Cattleya mauve colour does not combine well with others, the magnificent Dominion with falls of rich violet velvet, the noble E. H. Jenkins, Asia, too good to risk any detraction by mixing it with other varieties, Ann Page, Crusader, Isoline, Mount Penn, Prosper Laugier, Deuie de Valery Mayet, and a few others whose conspicuous merits render them worthy of a place of their own.

This is in June, but among the various plantings can be seen many May-flowering varieties that have now passed their best. It is always wise to intersperse groups of these among their later flowering peers (for the June-flowering bearded sorts are the élite of this aristocracy). In April the margins of the beds were aglow with the purple and yellow, pearly grey and lavender of the smaller Crimean Irises (Iris pumila). Nor will colour be entirely absent when the early days of July come, and those at their best to-day have shed their glories for another season. Already in the background the grassy leaved forms are pushing their foliage well above the bearded sorts of medium height, and soon the species Aurea, Monnieri and their hybrid Monaurea, Ochroleuca and others will take up the tale and mingle their colours with the more permanent effects of purple Nepeta and grey foliage, and so that this reclaimed waste should not be entirely without colour even in the autumn months, masses of the autumn-flowering Michaelmas Daisies have been judiciously interspersed between the Irises.

Thus has a piece of land that for years lay an untidy waste between the mown lawn and the woodland been turned into a thing ofbeauty and a joy to its garden-loving owner.

But it is not in such Iris gardens proper, alone, that they can be used with more than usual advantage. They are an indispensable addition to the herbaceous border. Here they should be planted in bold groups of a dozen or so of one or at most two, sorts in each group. The varieties for each group should be chosen for their colour harmony or contrast, and even when the flowers are over, the swords of green, often grey-green, serve as a beautiful foil to other plants in bloom.

In the higher reaches, well above the water level, by lakeside, stream or pond in full sun the Bearded Irises can be grown with equal success, while lower down at the water's edge there are many grassy leaved forms—such as Monspur, Sibirica Emperor and Snow Queen, Sibirica Perry's Blue (which is the bluest of all), Bulleyana and numerous others, in addition to the whole Kæmpferi race, the most wonderful of all Japanese flowers—that will thrive with little attention and give rich displays of colour. It seems impossible that there are to-day, in the garden-loving England of ours, hundreds of thousands of people who know absolutely nothing of the wonders of the Iris, but it is so. No plant is more easily grown; none of any value in the garden requires less care; and few give so freely such an adequate return in beauty of form, wealth of colour and delightful fragrance. This latter attribute is not sufficiently recognised, for the fragrance of the Iris is more subtle than that of the Rose, more pungent than that of the Lily, and more delicately sweet than the Violet.

To those who know and love the Iris it is impossible to resist enthusiasm, even to the point of what may appear to the uninitiated to be absurdity. To those who do not know them I would say: If you would enjoy colour that no art has ever produced; form that has failed both pencil and camera; a myriad effects of light and shade, harmony and contrast, and every excellence of beauty that nature can bestow, you will find it in the Irises. You may love your Roses, Carnations, Lilies or the glorious blue of your Delphiniums, but if you would open the gates of fairyland and tread the pathways of dreams you will find it is easiest achieved through the Iris, for it is a flower that constantly speaks to the imagination. An evening spent among a good collection will suggest to you all sorts of curious and wonderful things. The rich robes of a burgher of an old Rhine city, knights and fair ladies in the days of chivalry, fair forms flitting through the flower-strewn fields of classic mythology, the nobility and dignity of a Jeanne d'Arc, the voluptuous beauty of a Cleopatra, the banners of Crusaders flaunted in the Syrian desert. As you look on them your memories will fly to all the poetry and romance of life and history you have ever known. The Iliad, Odyssey, Nibelungen, Arabian Nights, Shakespeare, will have a new meaning to you because each distinct flower will suggest a character from one of them. If you do not believe me let me tell you that I know it is true because I have proved it. RAINBOW.

THE WILD BEARDED IRISES

The Progenitors of the Florists' Hybrids of To-day.

THE subject of our picture, the beautiful Iris Kashmiriana, though plentiful in its native habitat, finds our climate unsuitable, but it has probably been used to assist in the production of some of the fine florists' varieties of recent introduction. Its milky white flowers are reproduced in the equally lovely and hardier Shelford variety raised by the late Sir Michael Foster.

Many other collected species and sub-species of Bearded Irises flourish in our gardens cheek by jowl with the latest products of the hybridist, and some at least of them bear comparison with the best.

The true Iris germanica is still to be found in many a cottage garden. A plant of the widest distribution, some collected varieties of it are really beautiful. Such are Kharput, collected near the city of that name; the large-flowered Amas, also collected in Asia Minor; and the very dark form, Nepalensis, of which the name—an unusual thing with Irises—indicates the origin. The beautiful white I. albicans is probably a natural hybrid of this species.

Very beautiful and full of character, a character it impresses strongly on its progeny, is I. pallida, also of wide distribution and common in South Europe. Even more striking is the form pallida Dalmatica, still among the stateliest and most charmingly coloured Bearded Irises.

Quite beautiful though now overshadowed in our gardens by their own progeny are the species pumila and chamæiris.

We are all prone to forget the debt we owe to the collectors of plants, some charming in themselves, some destined to have beautiful offspring. Collected plants are the hybridists' raw material.

BEAUTY AND FRAGRANCE AMONG THE RUINS: THE MILK-WHITE KASHMIR IRIS AT HOME.

SPANISH AND ENGLISH IRISES

DUTCH, Spanish and English Irises form in themselves a trinity of useful flowering bulbs for garden decoration from, say, about May 20 until about July 10. Just as if they are, for the moment, considered as one group, they become an integral part of that greater and more important trinity *par excellence* of twentieth century early-flowering bulbs—Daffodils, Tulips and Irises. A superficial acquaintance with those famous books, Gerard's Herbal and Parkinson's Paradisus, informs us that as it is in 1921 so it was in and about 1621. The "big three" of the modern English spring flower garden were as much in evidence then as they are now—perhaps even more so, for we must remember that if there were no Leedsii Daffodils, no Darwin Tulips, no Dutch Irises to swell the persons of the greater trinity, there would not be nearly so many other flowers to dispute their supremacy.

Stowe, near Buckingham, has lately been in the limelight of the London dailies. Its inclusion reminds us of the passage of time and the change in taste in English gardening. For several decades it was the beau-ideal garden. It was a pioneer garden. The old order was changing, and when finally Kent had finished with it, about the middle of the eighteenth century, it was very much more like a modern garden than any that had gone before. These bulbous Irises have survived the changes of style because of their usefulness, and the addition of the Dutch section has but still further increased it. I wrote about these in the issue for July 9. It is now the turn of the Spanish and the English.

Cultural Notes.—The main points to remember with respect to these divisions are (1) that Spanish Irises like light soil and English Irises heavy soil; (2) that given these conditions they may remain for several years in the same place without being taken up (a bed of pale heliotrope English Iris in the garden here, which has bloomed this year for the third time without the bulbs having been taken up, has been "a picture"); (3) that only experienced cultivators should attempt to grow either division under glass, even for late forcing (the newer Dutch are much easier to manage); (4) that no bulbs benefit more by being planted in good time in the autumn (I would suggest October 10 as the latest date for planting, and that if the bulbs were safely in the ground three weeks earlier it would be all the better); (5) that although light soil suits the Spanish, this does not mean that they want a very dry position; they require moisture underneath if they are to do their best (you can easily overdo them with dryness, as I found to my cost this unfortunate year, for one bed is practically a blank as far as any flowers are concerned, whereas others planted with bulbs from the same bags have done all right); (6) and, lastly, I would advise anyone to always include *Dutch, Spanish and English bulbous Irises* in their order. They are so very useful for cutting and follow on one after the other in such a convenient way.

Varieties of Spanish Iris.—To make a selection which will please everyone is just as difficult a job as it is to choose an English eleven for a test match which would give universal satisfaction. There are a few which must be in everybody's list. In Spanish Irises (as far as I know them) they are these: Flora (mauve standards and white falls), Rossini (white standards and canary falls), Royal Blue (deep blue self), Prince Henry (a rich bronze) and Cajanus (a grand deep yellow). Then we have Corelli (white and primrose) L'Unique (white and blue and which I always like so much as a cut flower, arranged by itself with appropriate greenery), Giant (a large pale yellow), W. T. Ware (primrose self), Souvenir (silvery blue), Thunderbolt (the fine old bronze), Solfatare (deep standards and pale blue falls) and L'Honneur d'Overveen (deep mauve with yellow falls). This is a 1921 sport. I had never seen it until the present year, and now that I have I can say it is very distinct, that a vase of it is a pleasing sight, and that it is well worth the award of merit it obtained at Haarlem in 1912.

English Iris Varieties, and Reflections.—Of late years I have only grown two lovely mauve seedlings of my own and a small batch which I raised from seeds sent me by Mr. Watson, whom readers will know as a raiser of hybrid Lilies and other flowers. These have produced a good self blue-purple and a good self red-purple. Personally I think a good "blue," a good mauve, a good red-purple and a good white are sufficient. I cannot get up any enthusiasm for the striped varieties, and yet I very much fear all the lighter shades (selfs) are in the end bound to change and take on this condition. One of my two beauties suddenly took it in its head to make the change. "It suffered for it though," for it was promptly dug up and consigned to the rubbish heap. So far, the deep "blues" and purples have always remained unchanged; but do they do like the others? I wonder. From catalogue descriptions these are the six I should go for: Julius (blue-purple), Mont Blanc (white), Proserpine (red-purple), Perle des Jardins (pearly-blue), Lucinda (white with mauve blotches) and Mirabeau (purple, dark, flaked). I fear, however, the names are in a very confused state, and it would be an immense help if some authority in England or Holland would take the matter up and try to get at least as much uniformity in the naming of English Iris varieties as we find, one is very thankful to say, in the Spanish. JOSEPH JACOB.

IRIS SIBIRICA AND ITS RELATIVES

THAT the plant which we now know as Iris sibirica should have received this name is doubtless due to some confusion among the early botanical authorities, for there is little doubt that the plant is really a native of Europe, throughout the centre of which it occurs, from near the French coast on the Bay of Biscay, across the Rhine to Bavaria, Switzerland and Russia. The first undoubted description of it is found in Clusius' "History of Pannonian Plants," and it was on this description, as quoted by Bauhin, that Clusius based his account. The characteristics of the species are the tall, hollow stems, which bear the flowers high above the leaves, the small scarious spathes and the short, broad, rounded capsules containing large flat seeds. No plant with these characteristics seems to be known in Northern Asia, though it is not impossible that it may exist in the Altai region, where one or two other Hungarian Irises are also known to occur. The Asiatic species is I. orientalis, and is distinguished by its relatively shorter stem, which does not raise the flowers much above the leaves, by the herbaceous and often reddish spathes and by the longer and more acutely angled capsules, which contain small cubical seeds. Its home is east of Lake Baikal and extends to Manchuria, Korea and Japan. The well known Snow Queen is an albino form of this species, but the distinction between sibirica and orientalis has almost become obliterated in our gardens, where the best forms are often hybrids between the two, combining the large flowers of orientalis with the tall stems of sibirica. Each species has a white form and though these white forms breed true when self fertilised, all shades of light blue and even pale greyish mauve can be obtained by crossing white and purple forms.

If we take the hollow stem as being characteristic of all the species of the sibirica group, then, with the exception of the two plants we have already

A STATELY SPECIES: IRIS SIBIRICA IN CONGENIAL SURROUNDINGS.

described, the home of the group is in South-western China, from which come two yellow species—I. Wilsonii and I. Forrestii—I. chrysographes and I. Delavayi. I. Forrestii is a plant found on the open mountain pastures in North-west Yunnan and sends up a number of slender stems to a height of about 18ins. or 2ft. above the narrow glossy foliage which serves as a pleasing background to the delicate, pale-yellow flowers. I. Wilsonii comes from Western Hupeh and Shensi and is a sturdier plant than I. Forrestii, though the yellow flowers are hardly so pleasing because they are veined with faint purple veins.

The most recently discovered member of the group is I. chrysographes, which, in its best form, well deserves its name, for there is a conspicuous network of gold lines on the blade of the falls. The colour is of the richest deep red purple and the standards spread outwards to give the flower a most graceful outline. I. chrysographes varies a good deal from seed, and in some forms the gold markings are reduced to a single yellow streak down the centre of the blade. The remaining species of the group is I. Delavayi, which deserves to be far more widely grown than it usually is. It is essentially a plant for the waterside or for the bog garden, where its stems will reach to a height of quite 5ft. and where it will flower freely in a sunny position. Some years ago there seemed to be in cultivation in this country only one variety of this Iris, a dark red-purple form with a conspicuous white blotch on the falls. A few years ago, however, I received some seeds from Western China which have produced a number of colour forms. The flowers of each individual plant are of a different shade of blue- or red-purple and the amount of white veining and the number of white blotches vary in each example.

The other species which have been included in the sibirica group are I. Bulleyana from Western China, which seems to be of hybrid origin, since it does not breed true from seed. Its parents, however, are unknown and there is no suggestion as to the species which could have given rise to it. The Himalayan representative of this group is I. Clarkei, but it is distinguished from all others by its solid stem. The original specimens came from the ridge of Tonglo, some ten miles from Darjeeling, where there are a number of colour forms, for specimens collected some years ago over a distance of thirty miles showed variations in nearly every case. This Iris also appears to spread northwards into the Chumbi Valley and is possibly the Iris seen recently by the Mount Everest expedition on its march through Thibet.

In America there is a closely allied species called prismatica, with a solid stem which, in this case, is extremely wiry and slender. It is a graceful little species, with flowers not unlike those of a small sibirica, though its habit is different, for it comes up in rather widely separated tufts instead of in dense masses.

That I. Clarkei and I. prismatica are less closely related than the other members of the group is shown, perhaps, by the fact that they will not hybridise readily with them. The other species can all be bred together, and it is possible to obtain both sibirica and Delavayi, in which the white ground is replaced by yellow which comes from I. Wilsonii. The amount of gold marking on I. chrysographes can also be increased by crossing that species with I. Forrestii, but as the hybrids lose something of the velvety richness of I. chrysographes, it is doubtful whether the hybrids are worth making, except as a test of affinity between the species. I. sibirica crossed with I. orientalis is sometimes entirely sterile, as is also I. sibirica crossed with I. Wilsonii. On the other hand, I. Delavayi crossed I. Wilsonii and I. chrysographes crossed I. Forrestii produce hybrids which seed freely. The latter cross especially gave rise to a whole series of curious mongrel forms. An exceptionally dry summer and the difficulties of gardening under war conditions put an end to most of these and it is doubtful whether it is worth while raising these hybrids again, for few of them are as pleasing as the original species. An exception must, perhaps, be made for I. Delavayi crossed Wilsonii, which is a very handsome and vigorous plant.

All Irises of the sibirica group seem to do best in an open soil rich in vegetable humus and abundantly supplied with moisture. They do well at the margin of ponds and streams, though Forrestii deserves a choicer place than this. The roots form a dense mat and penetrate the ground to a considerable depth, with the result that it is practically impossible to transplant a good sized specimen without checking it considerably. In all but the rainiest seasons it is, for this reason, inadvisable to attempt to move the plants until late in September or early in October and even then it is usually a year or two before the transplanted plants form such good specimens as they were in their original position. The best effects are often obtained by planting out young seedling plants in the positions where they are to flower and, if this is done early in the season and the plants are generously treated in the matter of water and humus, they should begin to flower in the following season and become large plants by the second year. Seedlings of these species are easily raised. All that is necessary is to sow the seed thinly in pots of rich light soil, well drained and containing plenty of sifted leaf soil and to cover the seeds with a bare half inch of soil. The pots should then be plunged to the rim in sand or ashes in the open and merely protected from the depredations of birds and other intruders by some arrangement of wire netting. No protection from frost is necessary, for its effects seem rather to be beneficial. Early in the year a sharp look-out should be kept for the tiny green points which begin to make their way through the soil in March or April, according to the season and it is then that the protection of a cold frame or a temperate house is beneficial to the young plants. There they are not checked by late frosts and the more rapidly they can be grown on, the sooner they will be ready to be planted out, with a better chance of growing into flowering plants by the succeeding year

W. R. DYKES.

FEEDING APPLES FOR ANNUAL CROPS

It is natural for an Apple tree to carry a crop of fruit each year. An excessive burden finishing on a young tree may so far upset the balance of nature that it will fail in the following season, and frosts or enemy attacks may ruin the blossoms. These are, however abnormal conditions. The common reason of biennial cropping is lack of food when abundance is necessary, and this article will suggest the best lines on which feeding for annual crops should proceed.

WHEN one enters an orchard or a fruit garden in which Apples are the predominant crop, as is most frequently the case, one is often informed that this is "its year," or that, alternatively, this is "not its year," whence one gathers the conviction that the grower accepts biennial returns as perfectly natural and is satisfied that it should be so. The principle of alternate seasons of plenty and of scarcity is unsound. Under correct management an ordinary Apple tree will bear yearly, provided that nothing untoward, over which the cultivator has no control, steps in to prevent it. Because a tree has fallen into a bad habit is no reason why it should not be put through a course of reformatory treatment!

One of the most frequent predisposing causes of biennial yields is allowing the trees to crop while still too young to bear the strain Others include excessive burdens during the period when the foundation of the tree is being laid; neglect of adequate thinning of the individual fruits when the trees are established; insufficient supplies of moisture at the roots, with accompanying shortness of indispensable foods; and the total omission of thoughtful feeding when the burden of the year is being carried forward to perfection.

In respect of the first point it may be argued that, since newly planted trees almost invariably show a tendency to grow too rampantly, to allow them to bear fruits will act as a brake. This is sound in principle and in practice. The danger lies in the fact that few growers, except those of ripe experience, are able correctly to decide what is a fair number to retain for the object in view, while many refuse to remove a single specimen, even under expert advice. The inevitable result is that the tree lacks the energy to finish the fruits and to build up buds for the next year, two processes which run concurrently. It will not require many years of this treatment to convert the tree to biennial habit, but it will demand years of patient skill to persuade it again to travel the paths of rectitude.

The further contributory causes mentioned have parallel results. It would serve no useful purpose at this season of the year to dilate upon winter, spring and early summer watering, but consideration may be given advantageously to the most valuable feeding of the year—that which is, or should be, done when the much-to-be-desired flesh—the fruit as we call it—is being put on and blossom buds for the future are under construction.

An intimately associated point of paramount importance in relation to summer feeding, and, again, one which cannot be beneficially discussed at this season because it bears mainly on autumn and winter pruning, is leaf development. It may be said unhesitatingly that in the absence of perfect leafage summer feeding will not bring a return which is commensurate with the expense; or, in other words, summer feeding will be largely wasted in such circumstances. It is simple to express and easy of understanding to speak of putting food into the earth for the benefit of crops, but it must be borne in mind that its form is purely elemental and that it imperatively

demands perfect leaves to elaborate it, to convert it to real nutrient matter which will be valuable on appropriation. Perfect leaves, of average size for the kind or variety, firm in texture, stoutly hard to the feel and rich in colour, develop only on the tree which is perfectly pruned and which is kept clean of enemies equally at root and branch.

We will assume that the trees are in such satisfactory condition that summer feeding ought to justify itself, and will do so if it possess the practical value claimed for it. It is necessary to consider in direct connexion with the task the fact that the object to be attained is threefold. There must be a supply of nutrient matter of suitable kind to carry the pips, *i.e.*, the true fruits, to a perfect finish; to enable the essential covering of flesh to be added, and at the same time to construct blossom buds which will come to fruition next year in the absence of uncontrollable circumstances. It is a period in the yearly history of the tree when the strain on resources is at the summit of severity. If the strain reach breaking point and supplies begin to run out the pips will have the first call, the flesh the second call and the blossom buds the third call, and it is easy to see that there may be no response to the last and perhaps little answer to second demands.

The knowledge that there is only a limited time in which the objective can be reached must emphasise the necessity for using those food elements alone which will give a prompt response. How many generations ago it is since professional gardeners proved the value of natural liquid manures on swelling Apples and Pears in July and August it is impossible to say; but that they did it, and do it to-day where the conveniences permit, is beyond question. Many of them, however, and still more market growers, cannot command natural liquid manures in sufficient quantities, and the work must be done with other materials or not at all.

The food used must comprise the accepted essentials—potash, phosphates and nitrogen—in proportions varying with the trees and the soil, the latter more especially, and it is of the greatest importance to differentiate between the nitrogen providers which may be termed foods and those which are little more than stimulants. The secret of success will be found to lie in the judicious use of organic nitrogenous material, plus the other necessaries, given between the middle of July and the middle of September, or a little later according to the variety, the soil and the weather. An accurate complete analysis of the soil is, of course, peculiarly helpful, but in its absence experimenters can learn much by judicious applications of available potash, phosphates, meat and bone meals and dried blood in varying proportions and noting the results closely. It is, obviously, necessary to have moisture in the soil, and if, with a view to the conservation of this, a mulching is used it must be extremely light and very thin, or it will be found to exclude warm, vivifying fresh air from the surface and thus lower the temperature of the ground. Whatever may be used should be applied from within 1ft. (rather more in the case of large trees) of the bole to at least an equal distance beyond the extreme spread of the branches.

W. H. LODGE.

Plant Foods and their Application

ONE well known gardener, I forget his name, stated years ago that if you did not water first you might as well throw all the plant foods into your garden furnace or on to your bonfire. There is no doubt in my mind that watering is absolutely essential if feeding is to be satisfactory, and I go even a step further and say that feeding without previous watering is an absolutely dangerous operation. Instead of increasing the yield of your plants and improving the quality of roots, foliage or flowers as you want to do, you run severe risk of killing the lot, simply by applying fertilisers too strong to parched and hot roots. Thus if you are to feed satisfactorily, water first, or at any rate take the opportunity of applying your liquid manures when the plant roots are reasonably moist.

An absolutely ideal liquid manure is difficult to make, as if certain chemicals are mixed together in liquid form they react and throw down a heavy and useless precipitate. An all round liquid fertiliser should supply nitrogen, potash and phosphates to the plant in soluble form, and if one does not want this heavy insoluble precipitate (which means waste of fertilisers and waste of one's time in applying liquid manure) it would be well to keep as clear of lime compounds as it is possible to do. Supposing that we made, for instance, a liquid manure which we thought would contain the three essential ingredients, and used nitrate of lime to supply nitrogen, and phosphate of potash to supply phosphate and potash, we should get a heavy precipitate of insoluble phosphate of lime, and thus would only be supplying two of the fertilising agents we require to supply, namely, nitrogen and potash. Much the same result would be obtained if we were to take superphosphate of lime and dissolve it in water, mixing it with a solution containing sulphate of ammonia; there would be an instant precipitate of insoluble gypsum, and consequently a heavy waste in the manurial application.

If, however, one keeps to compounds of potash and soda and those of ammonia when making liquid manures one is not much troubled with insoluble precipitates, as these compounds are pretty soluble. Care should be taken, however, when buying any non-proprietary fertiliser to get the purest sample that is possible, as chemicals are so often adulterated—with disastrous effects on plant life.

It is not my purpose in the present article to give a long dissertation on the uses of the various chemical manures, with the amounts to apply, as these can be discovered by consulting reference works on gardening. A few points about the nature of the three groups and their action may, however, be useful, and these I give below.

By far the most important liquid fertilisers are those which supply nitrogen, such as nitrate of soda or sulphate of ammonia; usually about one ounce of either to the gallon of water is desirable. The purpose of this is to stimulate leaf growth only, and hence it should not be applied to plants from which leafage is not required. Saladings, Spinach, Cabbages and green crops of a similar nature benefit by the application of these liquids very considerably; but they should be applied to soils which have been well limed or are known to contain lime. If lime is believed to be deficient, nitrate of lime should be used instead, using rather less per gallon, as this fertiliser is both soluble and lasting. Many gardeners ruin their Peas and Beans by dosing them with nitrate of soda or other nitrogen-containing fertilisers to stimulate their growth. This is all very well as a fillip at the end of the season to get a few more flowers and pods, but if such treatment is bestowed on Peas and Beans during the growing season it inevitably means stalk and leafage and very few pods. While writing of nitrogen-containing fertilisers, it may be well to mention that nitrate of ammonia contains the highest percentage of nitrogen of any, but that this is usually too strong to be of much use as a general fertiliser.

The second group is found in potash fertilisers, very valuable indeed for increasing quantity as well as quality. Some form of potash manure—burnt wood ashes from the garden bonfire if nothing else is available—should certainly be hoed in among Potatoes before they are finally earthed up. Do not, however, dissolve wood ashes in water, and apply the liquid manure to your crops as a stimulant, since carbonate of potash is too caustic a material to produce a beneficial result. Nitrate of potash, which contains both nitrogen and potash, is a very valuable, though somewhat expensive fertiliser, and can be used at the rate of about half an ounce per gallon of water. Phosphate of potash, supplying phosphates and potash, is exceedingly deliquescent, and is thus an awkward chemical to have about the place. Good results have been obtained by using it as a fertiliser for florists' flowers and Sweet Peas, at about the rate of a quarter or half an ounce to the gallon occasionally. Sulphate of potash is the potash fertiliser most generally used; this can be hoed in at the rate of about an ounce to the square yard in showery weather, or dissolved in water at the rate of one ounce per gallon. It is specially valuable in the vegetable garden for root crops of all kinds, not omitting Potatoes.

The third group is that containing phosphates. Phosphate of soda is not much used, but if a supply is available it can be given as a liquid manure occasionally at the rate of half an ounce to the gallon of water. Phosphate of potash has already been mentioned. Phosphate of ammonia is a little used chemical, somewhat expensive, but exceedingly valuable. It should certainly not be used at the rate of more than half an ounce to the gallon of water, as it is quite strong. The most generally used phosphatic fertiliser is superphosphate of lime, which should be reasonably pure to be valuable, and contain not less than 20 per cent. of soluble phosphates. It contains a large proportion of gypsum, which will not dissolve in water, and which is thus wasted, and has the disadvantage of not keeping indefinitely. If stored in a damp place it will "revert," which means that some of its phosphates react with the atmospheric moisture, producing a compound which only partially dissolves in water. Superphosphate can be applied dry in showery weather, at the rate of one ounce per square yard. It is usually, however, applied in a solution at the rate of one ounce per gallon of water. It is good for all crops that require hastening on to maturity. A distinctly acid manure, it consequently robs the soil of lime; hence gardens that have had it applied to them for a few years should be thoroughly well limed, otherwise the fertiliser will give very poor results, even if it does not actually injure the crop to which it is applied, as it may do. Superphosphate should not be mixed with other chemicals, either in a dry form or in water (we have already referred to the latter matter); but if mixed dry with such materials as nitrate of soda or nitrate of potash, nitric fumes will come off which are very injurious both to the gardener and his plants.

Particular care should be taken not to apply liquid manure to dust-dry soil or to splash foliage or flowers, otherwise damage is almost certain to ensue.

E. T. ELLIS.

Hardy Geraniums for the Wild Garden, Woodland and Border.—IV

THE Geraniums from rocky crevices of high alpine regions provide a few of the best possible plants for well drained positions in our English rock gardens. G. argenteum easily stands at their head for all round beauty. When spring days wake the tufts of withered drab leaves into fresh life, it is both a pleasure and surprise year after year to notice the silvery sheen of the young leaves pushing through their faded ancestors of last season. One forgets how brilliantly burnished they are until the newly-minted treasure is spread out before one's eyes, as though one changed a well worn and greasy pound note for its full value in new sixpences. Later in the season the large soft pink flowers rise out of the silver pile, as tender in their delicate rosy tints as a Dog Rose, but so netted with intricate veining as to suggest enamel over engine-turned silver. It reproduces the same effect that is given us by Potentilla nitida, when that coy beauty can be coaxed, or baked, into a good enough temper to be lavish of its rosy blossoms. Both Geranium and Potentilla love the crevices between flat slabs of limestone for their roothold and to spread out their silver and rose on the flat grey rocks on either side. The Silver Cranesbill has never proved easy of propagation here, however carefully and variously I try to root portions of its woody stock; but when it so pleases it shoots a tiny seed into the most unexpected places, and those self-sown surprises generally look after themselves satisfactorily if I am wise enough to let them do as they please.

There is a mysterious plant sold as G. Webbianum, but ignored by the high authorities—Knuth, "Index Kewensis" and so forth. Less silvery in leaf than argenteum, it has, however, a family likeness to it; but the blossoms are white, prettily veined with a purple so deep in tone that it looks black from a distance. It suffers from damp and severe winters more than its relation and has "died on me," as they say in Ireland, many a time. It is so beautiful that it was an annual practice to keep a sharp look-out for the few seeds it produced, so as to raise a youngster or two. Unfortunately the present representative married outside the clan, and though it has gained in beauty by obtaining a dowry of silver from the richer race of argenteum, a flush of pink and rosy veins in the flowers show it must not bear the name of Webbianum alone. The plant shows a tendency to grow even richer and to gild the leaves on one side only of the tuft. I have succeeded in striking a plant from this opulent portion and hope to obtain an entirely golden clump, though the rosy flowers will not look so well as in a silver setting.

"LARGE FLOWERS OF PALEST PINK." AN UNNAMED CRANESBILL (FARRER'S 201).

G. cinereum is so kindly and useful, so easily struck, so free to flower and seed, that one can forgive it for having no silver in its leaves, and admire the lovely veining of its bright pink flowers in the various shades of its varieties. The beautifully pure white form that has become plentiful during the last decade is a very charming plant, and fortunately comes true from seed. There used to be a good hybrid between cinereum and argenteum. It is a vanished treasure now with me, and I have neither seen nor heard of it for some years. It was so beautiful I long to meet it again and hope it still flourishes in the garden of some good generous soul who will spare me a bit. G. subcaulescens is said to be a variety of cinereum. It is coarser and looser in habit, of rather too acid a pink and thin, Godetia-like substance of petal, to be as pleasing to my taste as those praised above, but it is interesting, and so lavish with its flowers that it is worth a place higher up and farther from the eye perhaps, and if possible among plenty of greenery to tone down its assertive rosiness. Perhaps it would look well surrounded by a colony of G. sessiliflorum, a quaint little species found in New Zealand, Tasmania, and also in South America. Its chief merit lies in the neatness and closeness to the ground of its tufts of tiny dark green leaves. The flowers are small and white and not shown off to the best advantage by the plant, as though it were not sufficiently proud of them to do more than fit them in between, instead of above, the leaves.

I have kept the newest and best to the end, but even so I cannot put a name to it. It is the plant Mr. Farrer described in the Royal Horticultural Society's Journal for October, 1916, as G. Pylzowianum (F. 201), though he frequently told me he believed it had no affinity with the true Pylzowianum. It seems that certain authorities, on examining his dried specimens, thought it was but a high alpine form of that species, also collected by him. By comparing the drawing accompanying these notes with that of the former instalment it will be seen how distinct the two plants are. This 201, Mr. Farrer told us, was "found only in the topmost screes of shale or limestone at 13,000ft. to 15,000ft., where it abounds in such masses as to cover the whole vast expanse of desolation with the fluttering flights of its innumerable big flowers of palest pink in August, crowded on footstalks of 2ins. to 3ins., all over the concise clump of each plant, making mounds of soft pallor all up and down the desolation. . . . Its season is so awkward that it was only after great difficulty and exertion that two seeds were hacked out of the ice-locked adamant of the mountain in autumn."

The plant was successfully raised at Ingleborough, and has flourished and increased so well that a seedling was given me by my good friend; and Mr. Clarence Elliott showed a plant in fine form this last spring at Vincent Square, when it obtained a well deserved award of merit, provided its name can be determined. So far as I can learn, it has not yet received one, so must still be known as F. 201.

My drawing has unfortunately been reduced a good deal in reproduction, and no longer does justice to the "*big* flowers of palest pink," but it shows their pleasant pendent habit and the neatness of the small leaves.

It disappears entirely below ground each autumn and forms a very distinct, rounded tuft on its reappearance in spring that attracts every lover of alpine plants even before it is covered with the exquisite flowers. E. A. BOWLES.

FORTHCOMING EVENTS.

July 26.—Royal Horticultural Society's Fortnightly Meeting in conjunction with which will be held the Carnation and Picotee Society's Show. Lecture at 5 p.m. by Dr. W. Bateson, F.R.S., on "Plant Breeding.'

July 27.—Hayward's Heath and District Horticultural Society's Annual Exhibition (two days)

July 28.—The National Rose Society's Show of Seedlings to be held at the Royal Horticultural Society's Hall, Westminster

August 1.—Bletchley and Fenny Stratford Horticultural Society's Show

CORRESPONDENCE

IRISES AND THE DROUGHT.

WHILE everything in the garden is thirsting for rain, and the herbaceous border, particularly, presents a sorry and stunted appearance, the Bearded Irises seem to be little affected by the trying conditions. Here, in the North of England, our Bearded Irises are growing in a sandy soil—a due south aspect with no shade from the sun, but with shelter from all winds—in fact, in a veritable sun trap. In spite of the intense heat and lack of moisture the growth is remarkably strong and robust. The crop of blooms was only moderate this year, though the quality was well up to standard and spikes of Asia and Prospero topped 4ft. 6ins. in most cases. Looking back over the past few years, I do not think I can recall a time when our Bearded Irises have looked better and freer from disease. The last rain here was on June 12, and a liberal dressing of bone meal, applied the day previous, was nicely washed in. The exceptionally dry weather at the moment is seriously hindering the transplanting of Bearded Irises, and, unless we soon have a heavy downfall of rain, one will be seriously tempted to put off this operation till the spring, except in the most urgent cases. Irises of the sibirica group have suffered somewhat seriously, the flowers and subsequent growth being much below the average, while in the case of Iris Kæmpferi, these have scarcely strength to open their flowers and are in a sad plight. The present drought, devastating as it is to most garden produce, is certainly a proof of the drought-resisting qualities of the Bearded Irises and must conclusively explode the theory (still held by many gardeners), that Bearded Irises *must* have a damp situation.—G. L. P.

AGRICULTURISTS in this neighbourhood inform me that in spite of the dry season and other drawbacks, some of their crops, hay, wheat, etc., are better than usual—and I am quite certain that, notwithstanding the frosts and severe changes we experienced in spring, followed by this long and terrible drought, which, up to a few days ago was accompanied by searching northerly winds, destroying many of my choicest Lilies, a few of the productions in the horticultural line proved to be far above the average. For instance, the Darwin and Cottage Tulips were infinitely superior to any I had ever grown before, and Bearded Irises made a display during the months of May and June finer and more gorgeous than had been seen here on any previous occasion; while there was complete absence of the least sign of rhizome-rot disease. These remarks apply both to the old Iris garden as well as to the new. No doubt a variety of causes may have contributed to this result, but, I feel that the dry weather and full exposure to hot sun had a greater influence than anything else. I am led to this view by the fact that a large portion of the old garden is in shade, and there the quantity and the quality of the flowers were inferior, and the stems shorter than in the new plantation, although they have been for some years established. I only began to plant the new garden last July and continued until November, and even later with some American seedlings. The garden is exposed to the fullest sun all day and is very dry, yet only a small number failed to flower. With the exception of the newest sorts, all plants came from groups in the old garden, and both gardens had the same cultivation, but, though not properly established, the transplanted Irises sent up flowering stems as long again in several instances, such as Edouard Michel, Mithras, Troost, Archiveque, Kysna, Alcazar, Ossian, and many others. I think, therefore, I am justified in attributing the better results from the new garden to the greater sun exposure, together with prolonged dry weather. But, as might be expected, the flowers did not last as long as those grown in more shade. It will be interesting to see next year's results after the great roasting the rhizomes are now getting.—CECIL A. P. OSBURNE, *Norwich*.

SOME RARE SHRUBS.

THIS photograph of a Carpentaria growing on a south wall in a Surrey garden may be of interest to your readers. It is covered with a wealth of bloom and was planted seven or eight years ago. To the right of it (which does not come into the photograph) is a fine mass of Romneya Coulteri. I counted eighty blooms in full flower of large size and there are masses of buds to follow. You had a picture of the little known Vitex Agnus-Castus (the Chaste Tree of the Greeks), growing on this wall, in your paper of October 11, 1919. I have never seen the Carpentaria and Romneya in

A FREE-FLOWERING CARPENTARIA (C. CALIFORNICA).

better form, although the border is terribly parched and we are unable to water this south border.—(Mrs.) G. PRICE, *Chertsey*.

THE BASKET ORCHID'S BIRTHDAY.

H. W. CANNING-WRIGHT, page 334, in his note on Stanhopea oculata, refers to the need of the openwork Teak basket in order to meet the "unusual habit" of these plants, viz., that of flowering in pendent racemes from the base of the pseudo-bulbs. As a Stanhopea was instrumental in bringing the basket cult into being, your correspondent and some others, probably, who grow Orchids may like to know how it originated. Here is the story as related to me by Mr. John Mylam nearly fifty years ago. Mylam at the time was Orchid-grower to Messrs. Rollisons at Tooting. Formerly he was with Sigismund Rucker, a noted amateur cultivator at Wandsworth. It was while here that the accident which revealed the "unusual habit" occurred. The "crock boy" was carrying an armful of plants to the potting shed for overhauling, and in endeavouring to open the door 'twixt potting shed and Orchid house let fall some of the plants, one of them a Stanhopea. Mylam, hearing the crash, was on the spot instantly, and was not slow in venting his wrath on the unhappy culprit. This over, the gathering up of the fragments followed, when it was seen that in the case of the Stanhopea a raceme of flowers was coiled round the ball of the plant, unable to emerge from its pot prison. So great was Mylam's joy at the discovery that he at once forgave the boy for his seeming carelessness, for, as he remarked, "I had learned a most valuable lesson, since the Stanhopeas had defied all attempts to flower them in the usual way." The examination which followed, and which showed clearly the direction of the flower-spike from the bulb, left no doubt in Mylam's mind as to what was necessary to meet the case. In other words, it was the birthday of the Orchid basket, and now the grotesque flowers of the Stanhopeas appear in their natural way from the bases of the bulbs without let or hindrance. Mylam at the time he gave me the information had been at Rollison's ten or more years, and assessing the time at forty-six years, it would appear that it is approximating to sixty years since the accident which gave birth to the Orchid basket occurred.—E. H. JENKINS.

IN PRAISE OF RHODODENDRON DISCOLOR.

I WAS glad to see that one of your correspondents had taken up the cudgels on behalf of Rhododendron discolor (page 346), which is certainly one of the finest of the earlier Chinese species introduced. There are, however, two distinct colour varieties of this in cultivation—the one pure white and the other the deeply tinted blush variety mentioned by your correspondent. Among some thirty specimens of this shrub growing in my garden, raised from the original seed, I have both colours in about equal proportions. This year one of each variety was forced into bloom under glass in early May, and both came true to colour. As for its height, Wilson describes his No. 586 as in part a bush 3 to 6 metres tall, flowers white, and in part a bush 2½ to 4 metres tall, flowers deep pink with a dark blotch. A great many hybrids of this Rhododendron have already been made, and some have commenced to flower in this country. Some of those that I have seen bear a strong resemblance to many of the Fortunei hybrids, with the great advantage of flowering some six to eight weeks later.—L. R.

STRAWBERRIES IN POTS. RUNNERS *V.* ONE YEAR PLANTS.

A JULY Strawberry bed with not a single runner in evidence is a rarity indeed; and if it did not mean that things are going hard with the old plants—many of them will not survive the strain of the abnormal drought—the absence of the younger generation might be welcomed by those to whom the annual cleaning of the bed—the paradise *par excellence* of Bindweed and other pests—is something of a bugbear. There is time yet, of course, for runners to appear, but they will be small and late, even for autumn planting. Great, then, is the dilemma of those who would grow a few Strawberries in pots for next spring, for late runners are of little use even for late work under glass, while for early forcing they are well-nigh hopeless. For how can you get the plants into their fruiting pots in late July when at the middle of the month they are still unborn? The wisdom, therefore, of the system which relies on year old plants instead of runners for pot work was never

better exemplified than now. The latest of this year's runners will have made good plants for potting up a year hence, just as to-day last year's runners are ready to hand as year old plants. The practice is by no means commonly adopted, but it holds so many advantages over the usual method—quite apart from making sure of one's plants in such a season as the present—that it is well worth any extra trouble there may be at the outset. By growing Strawberries in this fashion all the labour of potting-up and tending plants which eventually turn out "blind," and so give no reward, is avoided, and the valuable indoor space which such ne'er-do wells must occupy is saved. Instead, you have a batch of sturdy plants, one year old when finally potted, grown throughout without a check, and certain, under fair treatment, to yield a crop at least twice as good as that obtained even under the best conditions under the old system. To do the thing at its best the most fertile plants in the bed should be marked at fruiting time, and the runners from such plants left alone at cleaning time, except that all but the first growth on each runner should be nipped off. It is, however, more tidy and convenient to leave just one row or one corner of the bed to supply the runners, which, rooting into the soil, will there be left until the bloom buds appear in spring. At that time only the plants that show bloom trusses must be selected, each one being lifted with a ball of soil and put into a small pot. At the same time the bloom stalks are nipped off, and nothing more is needed until the time for final potting arrives than to keep the plants well watered in dry weather and free from weeds.—F. B.

STREAK IN SWEET PEAS.

I SUPPOSE streak in Sweet Peas is too old a subject for discussion in your journal, but it would be very helpful to many, like myself, if the views of various growers on this sore subject could be collected. Every year I lose the bulk of my plants through it, and it is exceptionally bad this year. I am something of a specialist in Sweet Peas, but streak beats me every time. Many of my best and strongest plants, with stems an inch across and 8ft. high, are now getting it. There is a small fortune for anyone who can find a preventive.—FRANK BONNETT.

[It is to be feared that this disorder is still unexplained and for the moment inexplicable, but if any readers have found a preventive or can give helpful information we shall be pleased to publish their views.—ED.]

GOD'S OWN FRUIT.

FOR force and wit Izaak Walton's saying about the Strawberry is, of course, so admirable that one would not have it unsaid were the Strawberry as sour as the Sloe. There is reasonable ground for thinking, however, that even of the Strawberry itself God has made a better fruit than it was as Izaak knew it; and since his time also has He not made Cox's Orange Pippin and the Doyenné du Comice Pear, which may surely challenge the Strawberry on all points for which a fruit is to be considered estimable? Not that I have anything to say against the Strawberry—far from it—any more than against the Gooseberry, except that it does not appear to agree so well with all digestions as it does with mine. But, if Walton had lived in this century instead of the seventeenth, he would have had a much larger variety of luscious fruits for comparison. No doubt, for a prentice effort, the Strawberry is very well. But as against such masterpieces as the Mango, the Pineapple and the Grenadillo?—SOMERS

HARDY PRIMULAS IN CULTIVATION.

I WAS very interested in your correspondent's notes on page 295 on Primulas at Chelsea. Mr. Rothchild's exhibit of P. helodoxa was very fine, but on Wednesday morning, the second day, they were almost dead and looked very pathetic, and very likely many people who saw them went away with a very poor impression of the plant. It may have been they drooped for want of water, or else they had been cut when very dry and in the sun, and packed for London without having had a long stand in water before doing so. Here this variety had done very well until the drought got so bad, and I wish I had had a photograph taken of a bed of 2,500 P. helodoxa in full bloom. They are a sad sight now. Sir Herbert Maxwell speaks well of this plant on page 319. Perhaps the drought has not been so severe with him as it has been here. Since February 1 we have had no rain to speak of, and what little has fallen has gone in a few hours. At the time of writing, a high, steady glass and a cloudless sky does not indicate any change. Dr. McWatt's exhibit was full of interest. P. nutans was very fine, as was P. Littoniana. This variety lasts such a long time in bloom. In a cold house (in full sun it is very much a hot house) it has been blooming for over three weeks and will probably last another two weeks. To the ordinary visitor it is never a Primula. P. pulverulenta Mrs. R. V. Berkeley was very fine and also on Messrs. Allgrove's exhibit. P. sikkimensis specially good again on both stands. Here, I have had some very fine P. sikkimensis, stems 2½ft. high and carrying heads of forty to forty-five blooms. These are growing in nearly full sun, with just a little moisture. It scents the whole place and is a good seed-bearer. I find it is an unreliable perennial, but as the seed germinates so easily and quickly, it is no trouble to keep a stock going. P. pulverulenta Mrs. R. V. Berkeley is one of the finest and one of the most difficult to raise. I have a batch of plants raised from (*a*) pink, Mrs R. V. Berkeley; (*b*) dark forms, from same batch as (*a*) Mrs. R. V. Berkeley. In the second generation I have from (*a*) a few pink forms, and from (*b*) pink forms, ranging from blush to rose pink. These have been isolated and pollinated by (1) their own pollen, (2) by pollen from pink forms, and (3) pin eye × thrum eye. What I shall get from the seed so fertilised I do not know, but a pink form raised from a pink form should give, surely, a better percentage of pinks in the next generation than one usually gets. I suppose Mendelism would be useful here, but I have tried to understand it and work it on my Freesias, but have given it up. Several well known plant raisers have not got much enthusiasm for it, but I wish someone would give me practical information on this point. In looking up back numbers of THE GARDEN I find certain correspondence on this variety (January, 1914) as to seed bearing. I have a lot of seed ripening on the plants now, set as described above, which proves it is not unfertile, and I hope the results will be a little more encouraging than usual. As regards P. hybrid Flambeau on Messrs. Roger's exhibit at Chelsea, I took it to be an inferior form of Lissadel hybrid; very floriferous, but lacks the intense bright colour of Lissadel hybrid, and being unfertile, is a drawback. Lissadel hybrid comes true scarlets from seed, varying slightly in shade and in the form of the flower, but in a mass at a short distance this difference is not noticeable. Of the other Primulas there, Bulleyana and the Bulleyana × Beesiana hybrids are very effective in large groups in moist, half shaded positions. P. vittata—not so well known as these others—may be described as somewhat like a purplish form of sikkimensis with narrow leaves of glossy green which die down in winter to an evergreen rosette; the flower stem rises from these to a height of 18ins. to 24ins., carrying umbels of purplish drooping blooms, the calyces covered with white farina. It sets seeds well, is easily grown, and can be increased by division every two or three years. On page 323 mention is made of P. Mabula. I think, as far as my memory goes, that this is somewhat like Messrs. Roger's Flambeau. I should like to know its

THE FRAGRANT SIKKIM COWSLIP: PRIMULA SIKKIMENSIS.

whether it is a pulverulenta × Cockburniana hybrid; but here again I thought the colour was somewhat lacking in intensity. The raiser does not say whether it is fertile, and, if so, whether it comes true from seed.—G. H. DALRYMPLE.

AZOLLA CAROLINIANA.

IT may be of interest to your readers that Azolla caroliniana which is recommended in No. 2589 as a minute water plant may become a veritable water pest. The canals and still waters over a considerable part of this district of Holland have been infested with it during the last ten or twelve years. The plants usually make their appearance towards the end of July and remain until frost destroys them. Their growth is so dense as to cover the surface of the water entirely, and in this way not only spoils the ornamental effect of ponds, etc., but forms a serious obstacle to small craft. The popular name for the plants here is Professor Weed, because it is said that a professor in botany of Leyden University carelessly threw some away and thus originated the trouble. I cannot vouch for this story, but as a matter of fact the town of Leyden is approximately the centre of the infested area, which extends to something like 50,000 acres, according to my estimate. In the last two or three years the Azolla seems to diminish in quantity, and there is no one but hopes that it will disappear altogether. I admit that the individual plants are pretty, but those who intend to grow them will have to be more careful than the Leyden professor.—H. HORSTMAN, *Wasseraar, Holland.*

AN INTERESTING FIND.

DURING a visit to Haute Savoie I found on the slopes of Mont Blanc at an altitude of about 8,000ft. a delicate Forget-me-not blue variety of the Vernal Gentian (G. verna). The plant was growing on a grassy bank studded with plants bearing flowers of the typical brilliant blue, and among which it was very conspicuous. I divided the clump and have brought portions of it home with me, but as I am not an expert alpine gardener, have little hope of flowering it. Can you tell me if this variety is already known, and if so, whether it is in cultivation? My guide, who had acted in this capacity for thirty-six years, had never seen its like.—COLLINGWOOD INGRAM.

[We should have liked to have satisfied ourselves that the collected plant was, in fact, a variety of G. verna, but our correspondent writes that the plants are still sickly and only just recovering from their confinement on the journey. He is, however, satisfied that the plant is in fact a lighter-coloured form of that species. No such light-coloured variety is, so far as we can trace, in cultivation. It is to be hoped that Mr. Ingram will be successful with the plants he collected.—ED.]

THE GLOSSY-LEAVED JAPANESE PRIVET.

BOTH in leaf and bloom the handsome Ligustrum japonicum is about three times as large as the familiar kind. It is a desirable flowering shrub of middle summer. There is a still larger form called macrophyllum, commonly named robustum in nurseries, that is more usually grown on the Continent. The typical japonicum has polished leaves, so much like those of the Orange that it is a good plan to arrange small twigs with Oranges in dessert dishes in pleasant remembrance of Southern lands where they are commonly brought to table with leaves attached. The large thyrses of cream white bloom are welcome at a time when the greater number of flowering shrubs are out of bloom.—G. J.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Carnations.—The layering of Border Carnations may be taken in hand as soon as convenient. Owing to the exceptionally dry period, in many gardens the work will have to be performed somewhat later than usual, as the growth of some varieties is backward; but satisfactory results may be confidently looked forward to, provided the work can be done during the next six weeks. Use a fine sandy soil for the rooting medium, keeping the layers in place by means of a Bracken or similar peg. If dry, after the operation give a good watering, and afterwards spray as necessary to keep plants and layers fresh until the latter are nicely rooted.

Hedges.—The trimming of Yew and Box hedges may be seen to now, and where close trimming must be practised, as in the case of a large hedge which is grown as background or to act as a screen in any exposed position, it is advisable to have a somewhat tapering top, for the hedge is then much less likely to become broken by heavy falls of snow, and such a finish also aids the rain more easily to pass down to the roots. Where there is plenty of headroom it is, I think, a mistaken practice to always cut Yew in close, for it makes one of the finest naturally grown hedges possible by simply removing a few of the more vigorous tips, sufficient to secure an outline roughly in keeping with requirements. Probably one of the finest examples of such a hedge may be seen here at Albury; it is some quarter of a mile in length, 40ft. to 50ft. in height, and the branches make an excellent covering overhead for two 6ft. walks running parallel to each other on either side of the main stems.

The Kitchen Garden.

Early Potatoes have ripened earlier than usual and may be lifted and stored, as there is no gain in leaving them in the ground. The ground thus becomes available for further batches of winter Greens, Turnips, or Strawberries; or, failing sufficient room in nursery quarters, it affords a suitable place for pricking out large breadths of Wallflowers, Myosotis and a host of other subjects necessary for spring work.

Vegetable Marrows growing in frames and showing signs of exhaustion from cropping will gain fresh impetus if the plants are given a few good soakings of farmyard manure water. To induce those which were planted outside to supply some fruits more quickly, a few shoots should be pinched at a leaf beyond the swelling fruit.

Winter Greens.—All kinds of Winter Greens may still be planted out. Before transplanting sufficient water should be applied thoroughly to soak the roots, to minimise damage when lifting. Where possible copious supplies of water should afterwards be given, and free use of the Dutch hoe should be made between the plants.

Globe Artichokes are gross feeders and on light soils in such a season as this will take almost unlimited nourishment. A good mulching of lawn mowings and manure will lessen the need for such feeding considerably.

Carrots.—If not already done, a sowing should be made of a stump rooted variety to provide young roots for autumn and winter use.

Hoeing between young growing crops is at all times beneficial, and its value is never more strikingly evident than during such a season as this.

Plants Under Glass.

Hydrangeas.—Young plants possessing one good head of bloom are always in demand for decorative purposes, and to secure such, cuttings should be inserted now in small pots of sandy soil. Select unflowered short, sturdy growths for the purpose, and after insertion stand the pots in a cool frame on a bed of ashes, keeping it close and shaded until root action has started. To obtain more bushy plants three cuttings should be placed round the sides of 3in. pots, and grown on undisturbed to flower in 6in., in which size they make most excellent vase plants.

Smilax required for winter decorative work should be encouraged now to make long healthy shoots by spraying the plants with soft water upon all hot days, and give the roots manurial assistance if necessary. Fine green twine or thread makes the best medium for the growths to cling to.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—Where blanks have occurred in recent plantings of Broccoli these should be made up on the first favourable opportunity, preferably during showery weather. Attend to the thinning of successional crops of Turnips, and finish the staking of late crop Peas, placing extra strong stakes to the more robust growing sorts. Keep the cultivator going freely between rows of growing crops, and see that the ground is kept as free from weeds as possible.

Cucumbers.—Assist crops in bearing with regular supplies of stimulants; Cucumbers seem to particularly enjoy occasional doses of liquid manure from the byre. Thin out rank growth, and so allow for the proper development of such as are left, and in this way add to the continuity of the crop. We find, as in previous seasons, that the variety Blair's Prolific has proved one of our best and most reliable croppers, being of fine form and of excellent quality.

Winter Spinach.—A goodly sowing of winter Spinach may now be made. This generally proves one of our most useful winter vegetables, as it can be used with advantage well on into the spring months. It is essential that the ground be deeply dug and well manured. It may be sown on ground which has been cleared of early Peas or Potatoes. Sow thinly, and so avoid overcrowding with resultant weakness of growth.

The Hardy Fruit Garden.

Thinning the Apple Crop.—Unfortunately this is unnecessary with us this season except with a number of the later varieties, as at the critical period we suffered from storms and biting winds from the north-west which robbed us of what promised to be a bumper crop. Blossom was never more plentiful on the trees, and after the lean season of 1920 we looked forward to enhanced crops; but alas for the vagaries of our Scottish climate we are again disappointed. Fortunately many gardens and orchards escaped, so where trees, and more especially young trees, are carrying heavy crops they ought to be judiciously thinned and so obtain finer fruit, while the tree is in no way overtaxed.

New Strawberry Beds.—If first year cropping is contemplated with Strawberries it is well-nigh impossible to secure runners too early. Have the border suitably prepared, enriching it with plenty of good well rotted manure, and plant the strongest runners procurable, giving good attention and every encouragement to make growth during the latter part of the season. Give a dressing of light protective litter before wintry weather sets in.

Plants Under Glass.

Malmaison Carnations.—As these pass out of flower layering should be attended to as soon as possible. Utilise some of the frames which have been cleared of bedding material, so that it may be possible to keep them close for a period after layering. Use a nice gritty compost of leaf-mould and sand with a light percentage of old potting soil run through a sieve. Afford shade during the hottest part of the day, and spray the plants lightly in the evening.

Primulas and Cinerarias should be potted on as occasion demands. Keep the plants growing freely; they thrive best in a shaded frame with the pots half plunged in leaf-mould or ashes.

The Flower Garden.

Pinks.—Cuttings of these may now be inserted in a cold frame, as it is always advantageous to have a quantity of young plants raised each year. Her Majesty and Mrs. Sinkins are two popular varieties and are highly prized for their flowering propensities and sweet perfume.

Violas should be gone over and the old flower stems picked off in order to prolong their period of flowering. On hot calcareous soils Viola plants die off readily, but if given copious waterings of liquid manure or soot water they will flower well throughout the season.

The Rock Garden.—At this time the rock garden should be gone over regularly to see that none of the rank growing subjects overrun the weaker and probably rarer specimens. Numerous rock plants may also be lifted at this time and propagated in cool frames with a view to replanting next season.

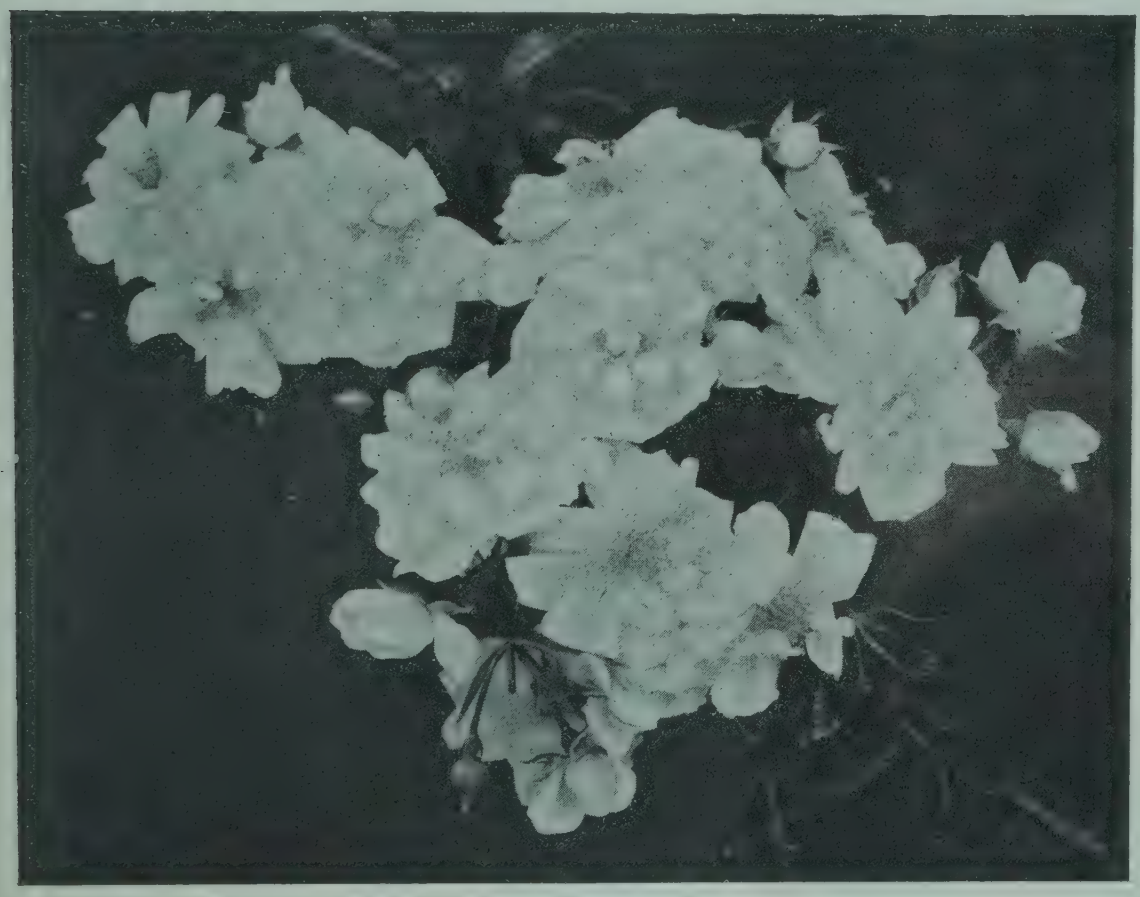
JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

NEW ROSES AT IPSWICH

Some Noteworthy Varieties at the National Rose Society's Provincial Show.

THE weather conditions precluded the exhibition of many new seedling Roses at the Provincial Show of the National Rose Society, where the following were on view.

Snowflake.—This semi-double Wichuraiana seedling will be a welcome addition to the free-flowering Rambler Roses. The neat blooms are perfectly round-shaped, about 1½ ins. in diameter, and of unusually good substance. The milk white colour is relieved by a compact cluster of golden stamens. The plant which accompanied the cut sprays shows it to be a very free-growing variety, well furnished with deep green leathery leaves. Gold medal to Messrs. F. Cant and Co.



THE LOVELY NEW WICHURAIANA ROSE, SNOWFLAKE.

Leslie Pidgeon.—The blooms were so fresh and good that it was difficult to realise that they had been brought from Belfast. It is an Hybrid Tea variety recommended for exhibition and general garden purposes. They are broadly conical in shape and of more than average size, and full of petals of good substance. In a good Rose season we should expect this to be a very fascinating variety. It is what may be termed a Rose for the connoisseur. The creamy yellow ground colour is tinted with green at the base and flushed with deep pink in the bud and the centre of the mature blooms. It is a vigorous grower, and the young shoots and stems are purple tinted. Certificate of merit to Messrs Hugh Dickson, Limited.

Mrs. James Williamson.—For those who like a fragrant Rose of good size and deep blush pink colouring this new Hybrid Tea has much to recommend it, although the raiser classes it as a purely exhibition variety. The foliage and flower stems are good. As this seedling was also brought from Belfast it has excellent lasting qualities. Shown by Messrs. Hugh Dickson, Limited.

RE-CROPPING THE KITCHEN GARDEN

What to Plant and How to Plant it.

WHILE the ground is so dry it will seem futile to many to plant anything. Yet we must have faith and hope. Rain is sure to come sooner or later. If we do not plant or sow it will be worse for us by and by because there will be no reaping to do. To meet these exceptional conditions of weather we must give a little more attention to the preparation of the soil. Soil which is hard and lumpy on the surface after digging must be reduced to a friable condition before planting or sowing takes place. The best way of doing this is by giving the clods a soaking of water in the evening and a good forking early the following morning before they have had a chance to dry. If water cannot be obtained the next best thing to do is to make, or procure, heavy wooden mallets and with these smash the clods early before the dew on them has evaporated.

Having reduced the surface of our soil to a fairly friable condition our next move must be to draw drills, whether for planting or for sowing, at proper distances apart, giving the drills a good watering late in the evening before planting next morning. We must also bear in mind to give our plants in the bed a good watering the night before they are pulled up. It will also be necessary to draw our drills somewhat deeper, both for planting and for sowing, while the soil is so dry

Are we to Apply Manure or not to such Crops?
If manure had been applied to the soil for the crops recently taken up, under normal conditions it would not be necessary to manure again for a second crop. But if a little can be spared for our terribly parched soil it will help the plants planted out, as well as the seedlings, to hold their own better until rain comes.

A SELECTION OF VEGETABLES TO PLANT OUT.

Brussels Sprouts.—Bearing in mind the importance attached to this vegetable in most households I think we must give it preference in our selection. Taking it altogether it fills a greater want for a longer time than any other vegetable. The width of the rows for these should be 18ins. apart, the same distance allowed between the plants in the rows. The after success of the plants will greatly depend on whether they are sturdy and strong and are furnished with a good ball of roots at the time of planting. If this is so, planting with a trowel will be found more successful, under present weather conditions, than planting with a dibber in the usual way. (This is possible only where there are not a great number of plants to put out). Insert the plants rather deeper than usual; they will feel the drought less and be nearer the water below (treated of in a previous note). The above method of deeper planting will apply to all other vegetables. Plant firmly and as late in the day as convenient, watering well in if possible. If not possible and the ground is friable, plant all the same and keep the hoe plied frequently. There are a large number of varieties, the best among them being, perhaps, Sutton's Matchless and Dwarf Gem.

Cauliflowers.—Plant in the same way as advised for the Brussels Sprouts. This plant loves a rich soil. Where this is forthcoming and a good soaking of water is given to the plant at the start it gives no trouble afterwards. The old Walcheren is still one of the best autumn varieties, and so also is Eclipse. It is a good plan to plant a few earlier sorts, such as Snowball, at the same time as the above; maturing earlier they will prove useful. Plant the former 2ft. apart and the latter 18ins. In planting, examine the young plants for blind plants (meaning those having no centres). Throw away all such when found.

Broccoli.—Indispensable in all gardens—more especially as a spring vegetable—it is one of those vegetables which gives the best results when grown in as hardy a manner as possible. This especially refers to late varieties coming into use in April and May when other vegetables are scarce. The custom is followed by many of planting the ground recently cleared of Strawberry plants with such varieties as the Queen and Model without digging or preparing the ground in any way, simply hoeing the surface and clearing away weeds. Large holes are made with a crowbar, the plants inserted, the holes filled with soil, which is then well rammed and watered. Grown in this way they become most hardy and will withstand severe frost. Plant 18ins. apart. Other useful varieties to plant are Snow's Winter White, Christmas and the Leamington. Plant 2ft. apart.

Coleworts.—One of the most useful early winter vegetables we have. Plant now, 10ins apart on a warm border, and you will have a crop of splendid tender little Cabbage to cut from till well into the New Year. The London Colewort is the best

Borecole or Kale.—Better understood under the term of Winter Greens. The following are among the best. Cottager's Kale, Asparagus Kale, Dwarf Curled, Ragged Jack (the latter very hardy) and Sprouting Broccoli. The most important point in the culture of these as it is to the

case of autumn and winter Brassicas generally, is to obtain healthy, strong-stemmed, well-rooted plants to start with and to plant in good time.

Savoys.—These are something like the Broccoli as regards hardiness, and should be planted in firm ground with the crowbar as described in the case of late varieties of the latter. They are appreciated most in the depth of winter and early spring, when exposure to frost will have mellowed and improved their flavour. The Green Curled variety is mostly favoured; it is of small size and excellent flavour. Plant 15ins. apart. The Drumhead, when well grown, is of immense size, and after exposure to severe frost is of excellent flavour. It is *par excellence* the working-man's winter Cabbage. OWEN THOMAS.

Hints on the Application of Liquid Manure.—Reference is made elsewhere in this issue to the importance of not applying liquid manure to dust-dry soil, as it may injure the roots of the plants. Very important also is the matter of keeping liquid fertilisers, of whatever kind they may be, off the foliage of one's plants, as otherwise scorching or burning is sure to result, however diluted they may have been. But it generally happens, that when one is feeding either flowers or vegetables some of the liquid gets splashed on to the leaves, and thus it is well to take the trouble immediately to wash off the liquid with a syringe to prevent injury. Some of the best exhibition blooms have been completely ruined by splashes of strong liquid manure getting upon them, and it is naturally very annoying to lose blooms in this way, with which one has been expecting to win prizes. Plants can well be fed with liquid fertilisers made from animal manure. Horse, cow and sheep dung are the three chief, and the addition of soot is in every case desirable. If you have a 100-gallon tank in your garden, two or three pecks of fresh manure of any of the three kinds mentioned will be quite enough with about three-quarters of a peck of soot. The two materials should be put into separate bags, and constantly worked about in the tank until the water thoroughly permeates through them. It is a good plan to prod them frequently with a heavy wooden pole, to ensure most of the rich juices coming out of them, if the sacks used are at all fine grained. Such a tank should be used not for feeding direct, but as stock solution, and each canful of this liquid should be diluted to the colour of weak tea before it is applied. One old gardener boasts that he always dilutes his liquid manure so much that he would really not mind having it for his tea himself. Such liquid manure, however, would be of very little use to apply to gross feeders, *e.g.*, Leeks, Celery and Onions, which, incidentally, can stand more feeding than almost any other vegetable. It may be remarked in conclusion that the spent manure from the sacks suspended in the tank can be, if it is horse manure, used as a mulch, otherwise it is apt to set hard on the surface and throw off the rain.

The Moonlight Broom.—This is without a doubt one of the very best of its race. Though described over half a century ago it is still uncommon, but why this should be so it is difficult to understand, for the variety is a robust and easy grower in any good Broom soil. It is probable that it does not come true from seed, which means that it has to be propagated by cuttings or layers, with this genera both slow methods of increase when compared with raising from seed. But, even so, Broom Moonlight deserves more attention than it gets, for it is quite distinct and has many other desirable qualities. Following closely the type, Cytisus scoparius, in habit and stature, the flowers are rather larger, of firmer texture and in colour a beautifully cool ivory, almost exactly that of C. præcox when full blown. It blossoms with the unfailing regularity and profusion of the common Broom, but lasts considerably longer. Not only are the individual flowers more enduring, possibly on account of the fact that they do not set seed freely, but the season is several weeks longer than that of C. scoparius. In some catalogues Broom Moonlight is listed C. s. sulphureus and C. pallidus. Loudon, we believe, speaking from memory, called it C. s. albus and described it as "flowers white or of a very pale yellow."

An Interesting Succulent, Mesembryanthemum aurantiaca.—This wonderful little shrubby plant is not hardy, though it only needs to be kept safe from frost, and is one of the most striking little subjects for planting in any odd sunny corner that can be found. The stems are woody, thickly covered with long, round, glaucous green leaves and plentifully bestarred with the most intense orange flowers we have ever seen. In the sunlight these open widely, so that the plant presents an almost dazzling picture. The petals are narrow, but densely crowded together, so that they form a perfect ring, and each one glistens like fine satin. The plants are very easy to grow, but not long lived, so that cuttings to replace the old stock should be taken every year. These root like weeds in the open ground and can then be taken up and potted ready for the winter, when they must be placed in a frost-proof house. Although they are succulents and cannot have too much or too intense sunlight, they must not be dried off too severely in winter, or the roots will be killed. Give them just enough water to keep the soil damp—say, about once a week—and increase the supply in spring.

"The Orchid Review."—Owing to the illness and subsequent death of Mr. R. A. Rolfe, Editor of "The Orchid Review," the publication was suspended for about six months. We are pleased to see that this periodical is being published again, and the July number has just come to hand. Mr. Gurney Wilson, F.L.S., is the Editor, and copies of the publication may be obtained from The Publisher, 70, Sheen Road, Richmond, Surrey; price 1s. monthly.

IRIS LENT A. WILLIAMSON.

[Mr. John C. Wister, President of the American Iris Society, writes to correct the name of a Bearded Iris mentioned in our report of Chelsea Show in the issue of May 28. The beautiful Lent A. Williamson was inadvertently described as "Lieutenant" A. Williamson.—ED.]

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

ARUNDO DONAX (W. E. C., Retford).—Our correspondent is, not unnaturally, concerned by the contradictory statements that are often circulated concerning the same plant, and particularly with the Giant Reed, which, by some, is classed as a bog plant, while other authorities say it must not be planted in a wet place. Both in a measure are correct. It is largely a matter of winter temperature. In the Western Counties we have seen Arundo Donax flourishing exceedingly on the moist margins of streams and ponds; positions which, in colder districts would be fatal. In parts of the Home Counties it thrives well unprotected in a rich, deep soil: while further North protection is essential, and we advise our correspondent to give some winter protection to his first plants. The Giant Reed is easily propagated by placing a stem in a water tank, when young plants with roots soon appear at the joints. If these are potted a stock is soon obtained and its hardiness in the district may be decided. The glaucous variety is slightly less hardy than the type.

POTENTILLAS ATTACKED (W. D.-W., Redditch).—We think that the trouble with the Potentillas is due to the puncturing of the leaf stalks, etc., by an insect, but we cannot say what the species may be. The only thing to do in the circumstances is to watch the plants in the early part of May to see what insects are upon them, and if our correspondent will then forward us specimens we will identify them and advise as to treatment.

ROSE GARDEN.

ROSE LADY PENZANCE (Felsted).—Lady Penzance would make a good dense hedge, but not so quickly as Anne of Geierstein. The latter is not quite so sweet as the former.

ROSES UNSATISFACTORY (M. J. T., Surrey).—We should say that the soil needs attention in October. Have it trenched and some good well rotted manure worked into the lower soil. Remove the larger flints, and add some good loamy soil as the trenching proceeds. Unless Roses have a good deep soil to root in they never really flourish. Add some bone meal just below the surface soil when planting. The plants may be heeled in in a shady place until trenching is finished, then replant the best and add new plants if needed. It is a good plan to cut off all leaves when heeling in plants and any soft shoots, and in spring to prune back hard. This summer remove suckers and, if possible, give each plant two or three gallons of liquid manure, previously watering well the day before with plain water. Liquid manure made by steeping cow manure in a tub is very good, and this may be given undiluted. Manure is not of much use applied to the surface. It is when low down the Roses flourish, as their roots are encouraged to seek after it. Farmyard manure, pig and cow, if procurable, is better than artificial manure.

TREES AND SHRUBS.

TREES ATTACKED ("Woodhill.")—The trees are attacked by chermes, insects nearly allied to the green fly but covered with waxy hairs. The only thing to do is to spray the trees with a nicotine wash. Our correspondent will find nicotine (3 ozs.), soft soap (4lb.), water (40gal.), the best thing to use.

FRUIT GARDEN.

OUTDOOR VINES INFESTED WITH MILDEW (P. C. R., Kelvedon).—Syringe the Vines in the evening of a fine day with as fine a spray as possible, making sure that every mildewed part has been well wetted. While the Vines are wet with the spray scatter flowers of sulphur freely on the under as well as on the upper part of the leaves. Let this stand for twelve hours then syringe away with clear water (rain water for preference). Considerable force must be used in order to clear all the sulphur away. Seeing that the Vines are affected in the same way every year, we think that the border and root conditions are at fault.

EARLY AND LATE STRAWBERRIES FOR A HEAVY SOIL (Felsted).—Black Prince is a valuable early old sort; the fruit is small, of pleasant flavour, excellent for preserving, but not so prolific as Royal Sovereign. Waterloo is a fine late Strawberry with large fruits of a deep purple black in colour, excellent flavour, but not too heavy a cropper. We have found it to succeed best in partial shade. Givon's Late Prolific is an excellent late variety of great excellence; the fruit is large, handsome, of good flavour and crops well. Strawberries in well-managed gardens come in with vegetables in the rotation of crops, generally succeeding Broccoli, when the land is usually hard and poor, and therefore they are scarcely ever planted in the same position twice. The land should be deeply trenched and heavily manured for this crop. Now is the best time to prepare the soil and for planting. By planting strong, well-rooted young plants now a good crop can be secured next year of first-class fruit. There is only one King George that we know of; we saw it growing the other day among a large number of other varieties at a trial of Strawberries held at the Royal Horticultural Society's Gardens at Wisley. It there proved to be one of the best; but the best variety of the trial of early and midsummer varieties was Earl Haig, one of Messrs. Laxton's new varieties. St. Fiacre we have not grown. As it has not made a very great headway possibly its merits do not greatly excel that of others.

MISCELLANEOUS.

BEETLES FOR IDENTIFICATION (C. B. R., Berks).—The beetles sent are Meligettes æneus. They feed on pollen and do no damage to petals. Some other insect must be making the holes in the petals of the Roses.

NAMES OF PLANTS.—W. W. —1, Fraxinus Ornus europæa; 2, Rose Mrs. John Laing; 3, Rose Jacques Vincent; 4, The flower had fallen to pieces on arrival; 5, Rose La Tosca; 6, Rose Betty.——M. L. C., Dorset.—Prunus Pissardi (not poisonous).——P. A. S., Wrexham.—1, Bulbinella Hookeri; 2, Allium neapolitanum; 3, Campanula pusilla var.; 4, Anthyllis Vulneraria var. Dillenii; 5, Oxalis obliqua.——A. A. S., Watford—1, Rose Cheshunt Hybrid; 2, Rose Wallflower, leave new growths from 6ft. to 8ft. long and cut away old wood each year.——"Inted"—1, Phalaris arundinacea, var. variegata; 2, Antennaria dioica, var. tomentosa; 3, Rose had fallen to pieces on arrival.——T. L., Birmingham.—1, Asplenium Filix-fœmina, var. nodosum Mimulus garden hybrid (*not* alpinus; 3 Cistus monspeliensis; 4, Geranium reflexum.

THE GARDEN

No. 2593.—Vol. LXXXV.]

NOTES OF THE WEEK

[July 30, 1921.

WE have now reached that period in the gardening year when we should begin seriously to make plans for the coming season. These plans may include nothing more revolutionary than the replanting of herbaceous borders or some small extension to an existing rock garden. Contrariwise there may be some part or parts of the surroundings which offend owing to their want of form or distinction or even by their absolute ugliness. We have every reason to hope, therefore, that the article on the treatment of the entrance front of the medium-sized house may be of general interest to our readers and of very particular interest to a considerable number of them. Written mainly for the type of comparatively small or suburban garden, the lessons which it inculcates and the broad principles upon which it is based are very largely applicable to the more spacious country garden on the one hand and to its smaller suburban neighbour on the other. It is our intention to print from time to time further articles on design as applied to gardens of moderate dimensions.

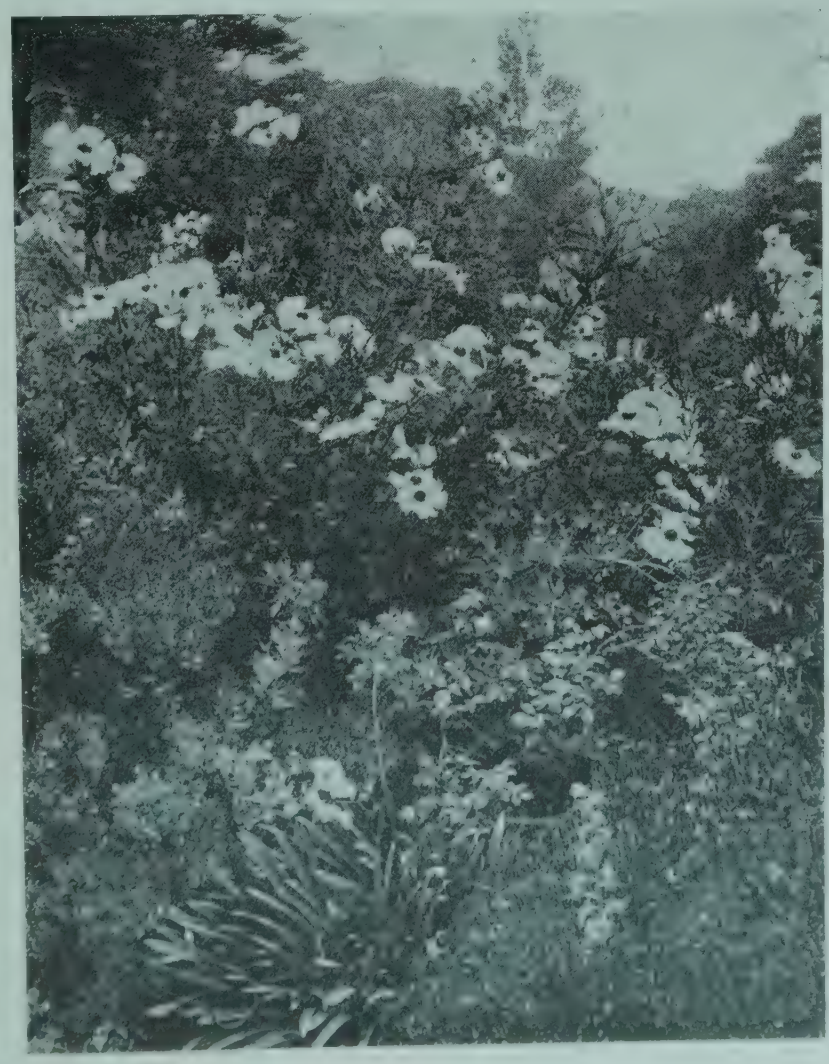
"Evening Brings Us Home."—The garden should be—a good garden is—restful to the eye and through the eye to the mind. Even when parched with drought, a well laid out garden, though it may bring to the real plant-lover—the enthusiast—pangs of sorrow for his suffering, dying and dead *protégés*, will to the more ordinary mortal bring the much to be desired mental repose. Yet there are gardens—gardens carefully tended withal—in which this quality is entirely lacking. So far from the restful feeling we all associate with a garden, they embody the very spirit of unrest. The reason is not far to seek: it lies in want of design. In flagrant cases an entire lack of appreciation of what constitutes a beautiful picture is noticeable. Meaningless jumbles of "rustic" arches, edging tiles, twisting pathways and other equally preposterous survivals of the Victorian era are still to be met with. These are, fortunately, exceptional cases. More commonly this uneasy feeling is due to people of naturally good taste, but more used to the critic's chair than the artist's easel, designing their own gardens, oft-times without any complete plan even a mental one. The essential for repose in a garden is breadth of treatment. Save to the collector—a "species" apart—a garden is not a museum in which to collect plants! It is the material on which to paint a living picture, ever changing but perennially beautiful. It must be free from colour discords. Especially in the "dog days," it should not be overfull of flaming colour. Beautiful flowers in proper settings will contribute largely to its beauty, but to stretches of green turf and cool grey paving, and to masses of green and grey-green foliage, will it owe its repose. Amateurs' designs have a natural tendency to be too narrow in treatment as regards spacing and planting. It is a good rule when making alterations to set out always on rather broader lines than those which really seem desirable. As one grows older, one appreciates breadth of treatment to an increasing extent. Architects who start in the so called picturesque manner almost invariably turn later in life to one more severe. Do not unnecessarily multiply arches, and eschew "rooteries" and other such abominations. Be moderate in the use of garden ornaments. A little real stone goes further than loads of imitation. So shall your garden, when the day's work done, you return from "the dust and heat of city street," bring repose to the weary brain

> "And the night shall be filled with music
> And the cares that infest the day
> Shall fold their tents, like the Arabs,
> And as silently steal away."

This delightful feeling of tranquility should insensibly possess the mind the moment the front gate is reached. Does it?

On Making the Best of a Bad Job.—Out of evil cometh good. It must be some consolation to those who have laboured hard with water-cart and hoe to keep their treasures alive that they can, at any rate, contemplate the coming winter with more than usual equanimity. It will indeed have to be a remarkably hard season if it is to do any appreciable damage to hardy or all but hardy shrubs outdoors after the thorough ripening they are receiving. It may confidently be expected, too, that where they have not been allowed to suffer actual want of water, many choice shrubs on the border line of hardiness will, next season, blossom far more freely than is their wont. The Romneyas, for instance, are growing, flowering and spreading in a very different manner from that to which we are accustomed, and a reflex of this, for them, favourable season, will be the good start they will obtain next year. The blossoms of these beautiful plants are as chaste and cool to the eye as the hot sunlight is welcome to their roots. In a season when even the torrid looking Alstrœmerias are wilting the great Californian Poppies still spread tranquilly their feast of gold on silver plates.

A Real Gardener.—There will be found in this issue an article from the pen of our old and esteemed contributor, Mr. E. H. Jenkins, whose valuable articles must in the past have given pleasure to many thousands. Those of our readers who know how seriously ill Mr. Jenkins is will be amazed at the unconquerable spirit which prompted him, suffering acutely as he must have been, to take in hand again the pen, which all good journalists believe to be mightier than the sword. Mr. Jenkins possesses in a superlative degree that grit which is a national characteristic and which inevitable rebuffs and disappointments make peculiarly necessary in a British gardener



THE GREAT SUN-LOVING CALIFORNIAN POPPY, ROMNEYA COULTERI.

IMPROVING THE "FRONT GARDEN" OF THE MEDIUM-SIZED HOUSE

There is, broadly speaking, a sameness and general unattractiveness about the entrance front of even good-sized houses, particularly of the type usual in the suburbs which are as depressing as unnecessary. It is hoped that these notes may be of service to those contemplating their improvement.

THE design shown in Fig. 1 represents a treatment for a house with a frontage of, say, 50ft. or a little more, lying back about 20yds. from the road and standing somewhat higher than the roadway and unprovided with a carriage sweep. The garden in mind is already divided from the public footwalk by a cleft Oak pale fence. This is retained on the plan, but is adorned inside with a hedge of hardy Barberry—Berberis Darwinii, or B. stenophylla being the two most suitable kinds for the purpose. This hedge should not be closely clipped. From the gateway the paved path lies between mown greensward, which, in turn leads back to herbaceous borders on each side. For the sake of winter effect these borders might well have a few well-chosen, and preferably evergreen, flowering shrubs included in them, or they might, if desired, be formed entirely with hardy shrubs of not too robust a habit. In this case a few standard trees, such as Laburnums and Mountain Ashes might be planted on the hedge line. For the speciman shrubs shown in the turf either Irish Yews (Taxus baccata fastigiata) or one of the upright Cypresses (Cupressus Lawsoniana erecta viridis, C. L. Fraseri or C. macrocarpa, clipped to shape) would be suitable. On account of its richer foliage and desirable habit of growth the Yew produces the best ultimate effect in such situations, but in Southern gardens Cupressus macrocarpa has the great advantage of quickly attaining the desired size.

The paved path, already mentioned, leads straight to the house entrance *via* a small paved forecourt, bounded on the front by a low terrace wall, at the rear by the house, and on either side by clipped and shaped hedges, preferably of English Yew. Other evergreen hedge plants could be utilised, though hardly with so rich an effect. Two steps are shown at the entrance to this court, but three or four could be used advantageously; if the levels made them desirable and should the site require, a greater number could be arranged, but in that case it would be well to introduce steps in the path itself. The arrangement of steps in pathways is dealt with below; suffice it for the moment to say that such arrangement is most important. A seat, preferably in stone though hardwood is more satisfactory from the utilitarian standpoint, stands between the hedge buttresses at one end of the court and a figure set in a half-circle formed in the hedge forms a balancing feature at the other.

Four beds, intended for low planting, provide colour in the centre of the court. It is desirable to plant the edges of these with sorts of spreading habit so that they may fall naturally and gracefully over the paving.

Plants suitable for these borders include the dwarfer Delphiniums—those of the Belladonna section—Pentstemons, Antirrhinums, Carnations, Pinks, Allwoodii, Lilies, dwarf Campanulas (such as carpatica and turbinata), Lavender, Nepeta, Sweet Williams and Lobelia fulgens, with a selection of grey foliage plants such as most of the shrubby Artemisias, Anthemis cupiana, &c. For the edges, besides some of the dwarfest of the plants already enumerated, Aubrietias, Creeping Thyme, the dwarf spreading Campanulas and clear coloured Violas, especially white, soft yellow and mauve

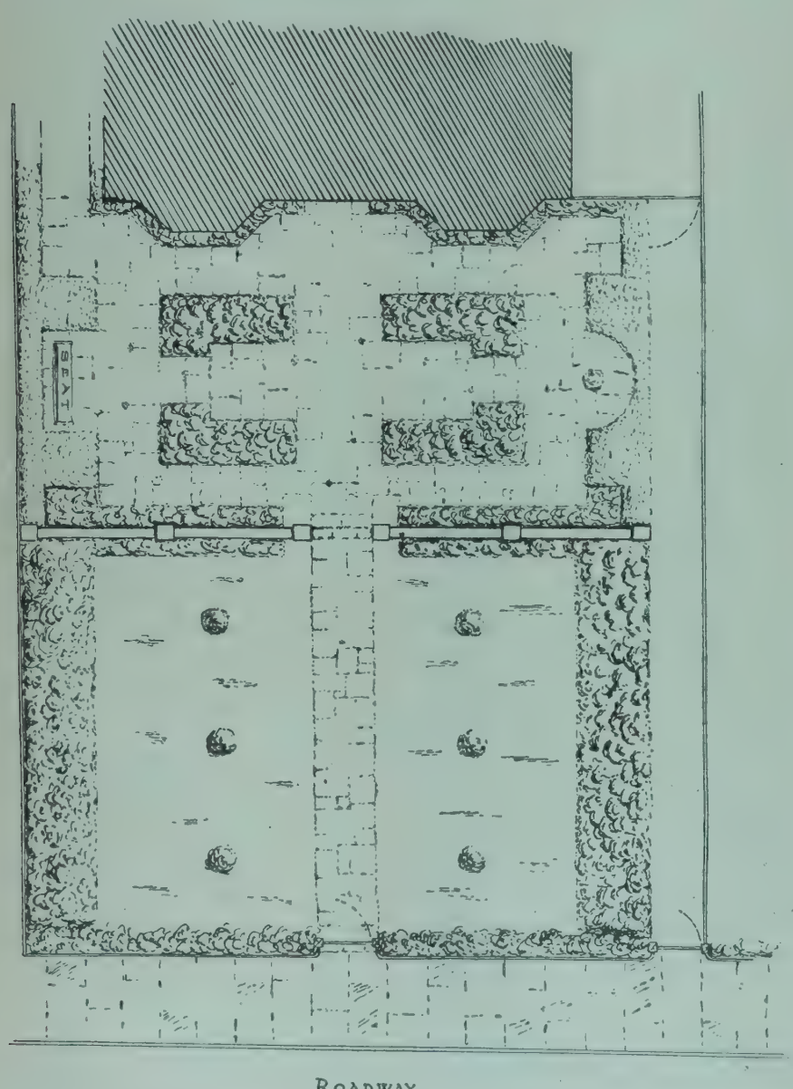


FIG. 1.—THE SMALL FORECOURT IS ARRANGED TO DISPLAY THE HOUSE FRONTAGE.

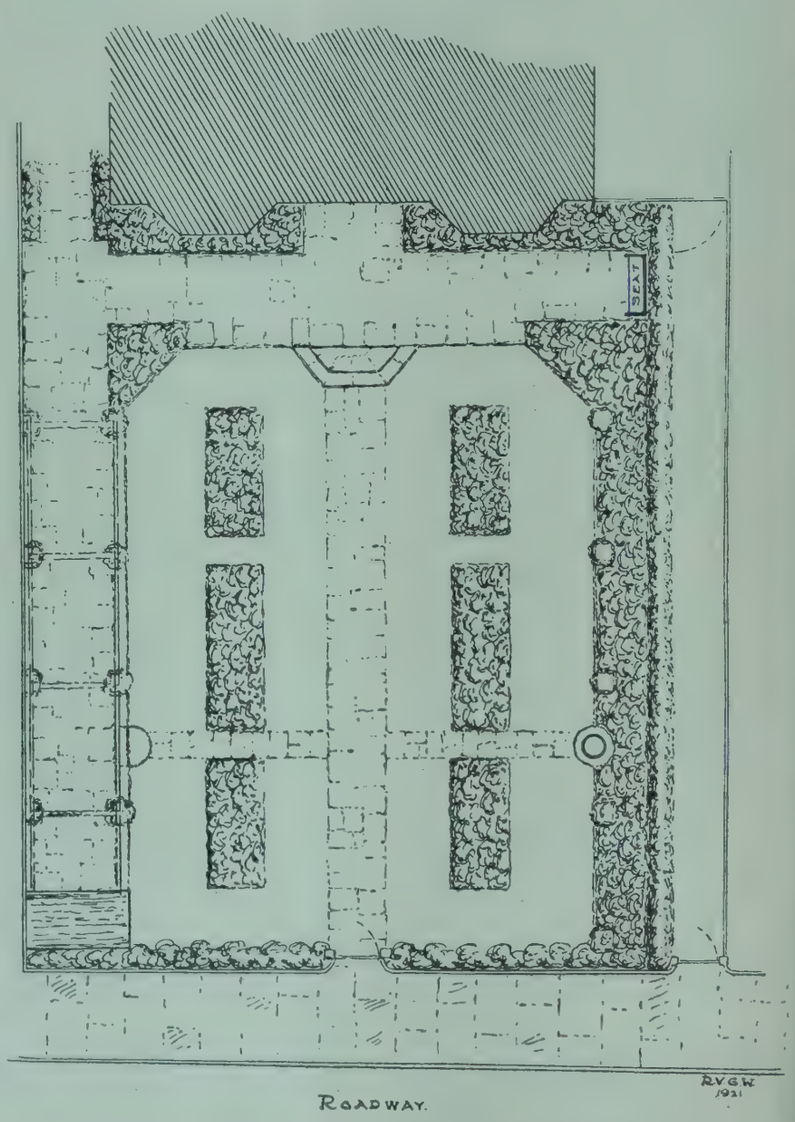


FIG. 2.—A LESS ORTHODOX ARRANGEMENT WHICH WOULD IMPROVE A HOUSE OF RATHER SQUAT APPEARANCE.

varieties), are suitable. It is not suggested that all the foregoing plants should be utilised in the four comparatively small beds shown. It is very desirable to carry out this kind of planting in groups. The narrowness of the beds makes it important not to make these groups too large, but it is equally undesirable to make them too small. The list given is therefore intended as a guide from which a suitable selection can be made. The essential unity of the four beds could be pleasingly accentuated by planting a 3ft. Irish Juniper at each corner of the rectangle formed by their outside boundaries. Should this suggestion be adopted these little trees must spring from a low-growing silvery setting in each case—one of the silvery leaved Cerastiums would do—quite informally arranged. The sketch (Fig. 1A) suggests to some extent the effect to be striven for. It will be noted that the forecourt the full width of the house and the arrangement of the beds and borders therein are calculated to display and harmonise with the lines of the house which many treatments in common use are likely to cut up and destroy.

The house illustrated is typical in its solid unpretentiousness of many thousands to be found in suburban gardens. For houses of more elaborate and imposing architecture a more pretentious court-yard wall, involving the use of perforation or balustrading, would be called for, while houses of a distinctly picturesque or bungalow type would look better with a very low and simple wall, and the boundaries to the forecourt might in this case, with advantage, be made less stiff and formal. The arrangement shown could easily be adapted for use where the building line is nearer the road. Retaining the paved court as shown, it would be necessary to sacrifice the Irish Yews shown as defining the path, but as a compensating feature two or three pairs of Hydrangea hortensis or Agapanthus in large pots or tubs could be introduced instead, placed considerably nearer the path edge than the Yews. Even a pair of shapely vases on the end pillars of the wall—purposely omitted from the complete design—would provide the necessary balance of weight. In cases where the forecourt, as shown, would absorb practically all the available space, the space between entrance gate and fore-court might well be filled with a solid border of flowering shrubs of moderate height, selected to a great extent for their beauty of outline and suitability as a background.

Paving has, unfortunately, become of late years a very expensive item, and a considerable saving might be effected, with, of course, some corresponding loss of charm, by paving only the actual path to the house, and, if possible, a cross-path from seat to figure, leaving the remainder of the court in turf. This would necessitate a certain rearrangement of the contents of beds and borders as it is not permissable to let plants trail on to turf. This design is in its general principles equally applicable to those cases in which the entrance front of the house is below the level of the roadway, but in that case it would be better to arrange the steps in the turf-bordered pathway rather than broad principles of terracing, just enunciated, are carefully studied in their application to each individual problem, no difficulty should be experienced.

Before finally leaving this design it will be well briefly to suggest how best to modify the planting of the little court should it need appreciably reducing in size. A reduction in width could,

FIG. 1A.—SHOWING THE FRONTAGE AS SEEN OVER THE ROADSIDE FENCE.

at the entrance to the little paved court. This question of the arrangement of steps is of very great importance in the garden; indeed, in large sets of gardens where cross vistas complicate levels, very considerable ingenuity is often necessary to get the desired restful effect. The general principle can readily be understood from the diagram (Fig. 3) in which two extreme types of stairways have been taken, the one convex in section, the other concave. It will be obvious that, considering them both for the moment as simple stairways, the upper one will have anything but a restful appearance, since the bottom treads will be rendered invisible from above by the apparent bulge of the intermediate steps. The continuity of the stairway is thus lost, and one must either imagine the, as yet, invisible stairs, or receive the impression that the stairway ends in a miniature cliff.

With the concave stairway, on the other hand, when approaching the flight from above, the whole of it becomes visible practically simultaneously. Not only so, but the manner in which the gradually widening bottom steps die away, as it were, into the lower level and place the real and apparent weight at the bottom of the flight is highly desirable.

To return to our muttons, it is not possible in the columns of this paper minutely to prescribe for the requirements of each individual reader. Some modification of the design would be necessary in probably every case. It is fortunate that it is so. What a deadly monotony would else obtain in gardens! The treatment of the varying levels is usually a bugbear to the amateur, but if the to a limited extent, be made by curtailing the length of the beds, but these beds are, as shown, as narrow as is desirable. If any appreciable reduction in depth is unavoidable it would be necessary to substitute two rectangular beds for the four shown, setting them centrally on the axial line formed by seat and figure, or it might, in the last resort, be needful to leave the court a paved square defined by borders of moderate size.

The other treatment suggested (Fig. 2) is entirely dissimilar, a narrow terrace, replacing the defined court, being extended on either wing right down to the road hedge, practically converting the central space so left into a sunk garden. The necessary low retaining wall would be best unparapeted, built dry and planted with the usual run of plants for dry walling. The wing of the terrace on one's left on entering the gate is so treated as to form a paved pergola, constructed preferably in stone or brick, but a simpler construction could, of course, be adopted. The pergola is shown as terminated with a roofed shelter for a seat, but the Berberis or other hedge against the roadway could be returned for a few feet along the edge of the pergola so as to secure privacy for an ordinary garden seat. To avoid a *cul-de-sac* effect, a neat stairway is taken down through the second arch of the pergola. From this a narrow paved path, crossing the entrance path, leads to a bird bath, which serves to balance these steps in the garden. The right-hand wing is defined by a row of pillars corresponding to those on the left, but the relatively narrow space is occupied by a border backed by a hedge, preferably evergreen. This border and the space between the outer pergola piers on the other side *could* be occupied by dwarf Roses and the pergola be treated as a Rose pergola. The beds defining the entrance path would then be suitably filled with dwarf Polyantha Roses, underplanted with Narcissi and other spring flowering bulbs and Violas to keep them effective over as long a period as possible. To most of u however, some mental preparation is necessary for a riot of colour—to come upon such a scene too suddenly strikes a jarring note. For this reason it

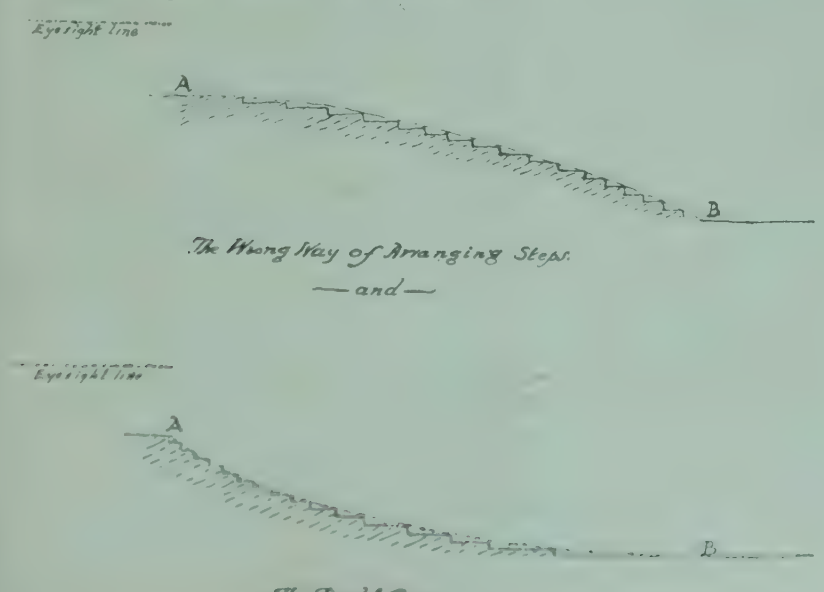


FIG. 3.—THE DISPOSITION OF STEPS IN A GARDEN STAIRWAY.

would probably be wiser to plant the pergola and balancing pillars with such Roses as Albéric Barbier, René André, Elisa Robinson and others of a similarly pleasing character. Touches of stronger colour could then be introduced by the sparing use of Excelsa, using as a foil to this the beautiful Dorothy Dennison. Clematises are very valuable for such a situation. The purple ones are most effective planted with a crimson Rose and the mauve sorts with a soft pink variety of the Queen of Flowers. Ornamental Vines should be used freely, also the invaluable Wistaria, remembering always that the more striking colours and features must be balanced—not copied—on the two sides. For the fence behind the pergola—should it be a fence, or the wall, which would be very desirable if it could be managed—Ivies of sorts would form the staple covering, but Jasminum officinale would give welcome variety. Then for the borders beneath the Pillar Roses, masses of Catmint (Nepeta Mussini) could overhang both wall and path, interspersed, and on the right-hand side backed, by clumps of Sweet Williams, Delphiniums, Madonna Lilies and other quiet and quaint old garden flowers. To obtain a constantly changing and ever pleasing picture a certain amount of transplanting would be desirable—Chrysanthemums and Michaelmas Daisies for the autumn, Wallflowers for spring, Antirrhinums for summer, and so forth. The beds in the sunk garden—if we may call it so—would then look charming bedded out for spring with, perhaps, Tulip Rose Gris de Lin and Royal Blue Forget-me-nots; for summer with Petunias—the rosy carmine shade would look best—Verbenas (soft pink or blue) Salpiglossis or other suitable annuals, or, again, with a deep coloured Heliotrope broadly edged with soft yellow Violas, or beautiful pink Tuberous Begonias, or even a good semperflorens form. Many other suitable and desirable flowers and colour combinations could be mentioned, but those given will serve to convey the idea. Where summer bedding is impracticable one can always fall back on the favourite Polyantha Roses, either alone or in combination with Nepeta or mauve Violas. The more or less triangular beds which define the terrace should be kept moderately dwarf, but their planting must, of course, conform in general character with that of which they form the extremity. The whole of the paving shown in this design might for reasons of economy be replaced by gravel, though the charming colour harmonies of self-faced Yorkshire paving and the effect of repose it conveys should not lightly be abandoned

GARDEN NOTES FROM A WESTERN SEABOARD

BY SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

DOMESTICALLY we are being rapidly reduced to *nettoyage à sec*, while out of doors we spend late evenings watering thirsty Rhododendrons and other shallow-rooting subjects. The drought and heat are without precedent since 1826—"the year of the short corn"—when the sickle was laid aside and the oat crop was pulled by hand. Such plants as a cool subsoil enables to endure parching have flowered more profusely than usual. The Cistus family, for instance, never had such an innings in this part of the country. Finest of all is the true Gum Cistus (C. ladaniferus) a name wrongly applied to the figure of C cyprius in the *Botanical Magazine*, t. 112. It is easily distinguished from that variety (a natural hybrid between ladaniferus and laurifolius) by its solitary flowers; where as C. cyprius flowers in clusters. Moreover, the blossoms of C. ladaniferus are far more beautiful than those of C. cyprius. Lay them side by side, and note that the petals of C. ladaniferus are of more substance—the deep maroon blotches twice the size of the other and the golden anthers twice the length. Note also how, in both species, when the petals fall, as they do every evening, the milky white turns to clear sulphur yellow.

Centaurea macrocephala is conspicuous in the borders during July, holding stiffly erect its spheres of rich, but soft, yellow. A good companion to it is C. Rhaponticum, with flowers of a similar shape, but rosy mauve in colour. I brought this plant home from the Engadine more than forty years ago. It does not ripen seed with us, but is easily increased by division. Many other Composites hold high revel at this season. Senecio Grayi, from New Zealand, its silvery foliage completely hidden in June by yellow bloom, has passed away, and is replaced in July by S. Hunti, which, though but 3ft. or 4ft. high as yet, ought to rise to the dimensions of a small tree. Craspedia uniflora, with solitary globes of brightest yellow on 1oin. wiry stems, is a desirable rock plant, and so are the creeping Raoulia australis and sub-sericea or glabra, I am not sure which, also New Zealanders. The former forms a silvery carpet on the rocks, studded at midsummer with tiny buff flowers; the latter has dull green, moss-like foliage with white flowers.

Lilies, with the marked exception of L. giganteum, are exceptionally fine this year, without a trace of the dire Botrytis plague. Lilium regale has unveiled its peerless charms; but I must confess to some disappointment in Mr. Amos Perry's hybrid Lily—L. regale × sulphureum. Among a dozen bulbs grown here in the open some have borne flowers indistinguishable from regale, indicating that the cross has not taken effect. In others the influence of sulphureum is apparent only in narrower segments of the corolla, a lighter ruddy stain on the backs of them, and broader leaves than those of regale. On the whole I think the hybrid is inferior to both parents, although it is a very pretty Lily. It is good to note colour effect through haphazard combination, such as I have just been enjoying in a large clump of the Nankeen Lily (L. testaceum), alongside of a mass of the purple Wood Sage (Salvia virgata nemorosa). Where can the canary yellow form of L. monadelphum be obtained? We have but two stems of this variety, which is far superior to the straw-coloured L. Szovitsianum, though that is not to be despised. One stem of the yellow variety, carrying ten heavily scented blooms to a height of 5ft. 6ins., makes one wish for more; but it does not seem to be in the trade now.

THE NANKEEN LILY (L. TESTACEUM)
Which associates charmingly with the Purple Wood Sage, illustrated opposite.

The June-flowering Ornithogalum pyramidale is not often met with in British borders, but it is well worthy of a place there, for its spikes of white starry flowers, averaging 18ins. high, constantly give rise to enquiry from visitors. As the foliage withers before the flower stems rise, it is well to give the bulbs a carpet of mossy Saxifrage, Campanula Portenschlagiana or other equally humble herb.

Moltkia petræa (formerly classed as Lithospermum) is a splendid subject for a crevice on a retaining wall. It grows slowly at first; the oldest plant we have has taken ten or twelve years to form a cushion a foot high and 2ft. across; but a fortnight ago it was a dome of deep blue, conspicuous from afar. Our summer flowers are normally about a fortnight later than those in the latitude of London.

Harking back to the Composites, Inula ensiflora deserves honourable mention for its neat habit

THE TRUE GUM CISTUS, C. LADANIFERUS.

and liberal display of golden bloom. It is a pigmy compared with the robust I. Royleana and grandiflora, being less than a foot high and of compact rounded growth, well suited for the front of a mixed border. The flowers might easily be mistaken for those of Rudbeckia hirta, but the acutely pointed linear leaves distinguish it clearly from that species.

The most fragrant plant in the garden just now (July 10) is Philadelphus microphyllus, which compounds for the modesty of its bloom, compared with others of the genus, by diffusing a grateful odour of Pineapple to a distance of several yards. A native of Colorado, it has been put to good use by M. Lemoine in raising a race of beautiful hybrids. Of slow growth, it has taken, here, fully ten years to attain a stature of 5ft. and as much through; but it is well worth waiting for.

Another fragrant July-flowering shrub is Rhododendron crassum, one of the Maddeni group, with white flowers of great substance as large as those of R. Edgeworthi, but more funnel-shaped. Introduced by Mr. Forrest in 1906 from Western Yunnan, this is one of the choicest of Chinese Rhododendrons and takes very kindly to our capricious climate.

Genista virgata, a native of Madeira, presents a remarkable appearance just now, July 14, 65ft. in circumference and 10ft. high, every spray closely set with clear yellow bloom. Massed on a bank behind it, Campanula lactiflora provides a charming contrast with milky lavender panicles.

A DRIFT OF THE PURPLE WOOD SAGE, SALVIA VIRGATA

BEWARE OF THE BEAUTIFUL NATIVE

Discrimination must always be exercised when introducing wild-flowers, however beautiful, into our gardens. The article gives some delightful but particularly dangerous examples.

WHEN we meet with some beautiful native plant, there is always the temptation to introduce it to the garden. One only finds out when it is too late that it is not always safe to do this, for though there are some desirable plants that either do not over encroach or are easily repressed, such as the Water Forget-me-not, there are others that respond only too readily to the more generous conditions of the garden and run riot and become actual pests. One of the first to beware of is the handsome Equisetum Telmateia, the Great Horse-tail; it is only safe to plant it in some damp place, well away from the garden, or it will become a pest that is hardly possible to get rid of. In a moment of incredible folly I once brought home a root of the Common Field Horse-tail (E. arvense). It interested me because it is not common in my district and it was a long time since I had seen it. It was laid in for further examination, forgotten for a time and then revenged itself for neglect by rooting and spreading over a choice corner of ground where hardy plants are propagated by sowing. In this case the unwisdom was inexcusable because the plant has no particular beauty. It was an unlucky day when I brought home the handsome great yellow Loosestrife (Lysimachia vulgaris); in its wild home by the river side it was only in small patches and looked as if it would not spread unduly, but its introduction has proved a misfortune that I have never ceased to regret; for not only does it run at the root, but even if prevented from seeding it has mysterious ways of appearing in unexpected places and is almost impossible to eradicate. The common Tansy, so handsome in large masses by the water side, is another garden pest, though it is easier to get rid of than the Loosestrife.

Some specially find wild forms of Field Scabious (Knautia arvensis) could not be resisted; the best for size and colour were marked with stumps and dug up in the autumn, giving rise to another life-long regret. They root deeply and seem to come up all the more persistently for having been, as we thought, thoroughly dug up and abolished. Another regrettable indiscretion was the introduction of Enchanter's Nightshade (Circæa Lutetiana); not a showy thing, but with a modest prettiness, and perhaps all the more attractive from its romantic name and because it grows in quiet, shady, mysterious places, that in themselves have an alluring quality. The pretty Wood Sorrel should also be avoided as it covers and smothers everything, but nothing is so bad as Campanula rapunculoides, with its pretty spike of purple bloom. Goutweed (Ægopodium Podagraria) is bad enough and baffles most people, though if it were not for its bad qualities, the sheet of comely green leaves would, in some cases be an acceptable ground covering. But I have succeeded in abolishing it here and there by persistent rooting up, and it is an honest enemy for which one has some regard, for the roots are white and can be seen and then it has rather a pleasant smell. But there is no good word to be said for Campanula rapunculoides: it is an enemy of the worst type—insidious, treacherous—all that is mean and odious. I read in [illegible]

THE TRAGEDY OF THE DROUGHT

Failures and Successes in a Midland Garden

THE poor garden! Last night on my return from business the gardener met me with a woebegone expression of face. "Have you heard the news, sir?" he asked. Fearing one knew not what, I replied in the negative. "They've cut off the water from the garden, and we can't do any more watering." I braced myself to meet the blow, remarking, "Well, thank goodness, they can't cut off the pump"; but the soul of my excellent helper refused to receive comfort.

Probably my plight is that of countless other readers, many of whom have not even a useful, albeit arduous, pump to fall back upon. What are we all going to do in this crisis of our garden affairs, when the plants are already dead, dying and like to die?

I walk round my little domain, and each visit leaves me more sorrowful than its predecessor, for new fatalities obtrude themselves at every turn. The rock garden has suffered most severely thus far. Nearly the entire collection of Saxifrages are compelled to squat on the broad leaves—what is to be the fate of all these dependents upon the town main?

The birds, too, which run to and fro in the little feeder stream and there quench their thirst, must they all desert me for the distant river? Right through the summer my tiny trickle, although it starts ingloriously from a concealed tap, has been drawing together a distinguished company of finches and warblers. Goldfinches, bullfinches, greenfinches, linnets, garden-warblers and many others know well when the rill begins to flow and haunt it day-long. This morning no fewer than five goldfinches were holding an indignation meeting on the dry bed of the stream because the wonted water was not. House sparrows I am pleased to disappoint, for they are like town urchins, delighting to do damage. Half way down the course of the feeder a tub has been sunk, in which there grows a pink Nymphæa (Laydekeri rosea), and so soon as a blossom opens, these guttersnipes peck it to pieces. If the sparrows of my garden die of thirst, I shall bury their carcasses without regret—the drought has overwhelmed me with parasites and I can well spare these burly ones.

THE LILY TANK.
"Crowded with cool leaves and glorious blossoms."

Out in the herbaceous garden there are some 300yds. of flower borders, which by all the laws of the game should have required during recent months no further attentions than those of staking and weeding. This sorrowful year they have cried out continually for the watering-can. Even such tough fellows as Bergamots, Madonna Lilies, Heleniums, Violas and countless others have lived or died according as they were watered or left unwatered. The lusty Oriental Poppies, together with their Icelandic relations, the Verbascums, the Snapdragons, to mention but a few species, all these have enjoyed little more than half a blooming period, so cruelly did the sun burn the life and beauty out of their flowers. The Sunflowers, fastened to 6ft. stakes, high above which they should have blossomed, are putting forth shamefaced little discs, over which the ugly ends of the supporting poles tower.

Rambler and pillar Roses have certainly flowered profusely, but the Hybrids and Hybrid Perpetuals have yielded but a meagre crop. Sweet Peas, in heavily manured trenches, constantly watered and kept back from flowering till late, these have done well, but the writing is on the wall for them now that they must lack their daily portion of sun-warmed water from the Lily tank. Shirley Poppies—for a morning glory of these lovely things upon my breakfast table I daily bless the contributor who gave to THE GARDEN readers last year the whole art of growing and picking this queen of all the Poppies; but to-day my hedge of "Shirleys" is wilting, and without water I shall quickly lose its pre-prandial greeting, The very Michaelmas Daisies are sick and faint.

and Aubrietias is "going, going, gone"; the Hutchinsias are burnt out, and even the tinder of them has blown away; Gentians are brown and beyond recall; the very Violets and Primroses which had contrived to creep in have gone enthusiastically dead; while one common field Daisy which I suffered to occupy an obscure corner, because after all it was a flower and one of engaging habits at that—to-day I sought its place and it could not be found. It is only right to speak here a kind word for the Campanulas, Sedums and Thymes, especially the Thymes, for they have carried on courageously through the worst drought in the memory of man and are to-day making fresh green growth on the "business as usual" principle.

Dwellers in the rockery more precious, such as Gentiana verna, the bog Primulas, Androsaces, Arenaria montana and the Kabschia Saxifrages—all these have been kept in being by daily watering, but the new edict will hit them hard, for the alternative pump is far distant from the moraine on and about which they dwell. And the Lily tank, now at its best, so crowded with cool leaves and glorious blossoms that the gold fish can scarcely find room to deploy and the very frogs the base foliage dying and the growths few and stunted. Still more remarkable, the common Alstrœmeria (A. aurantica), that greedy ground devourer, has begun to flag when but half way through its annual riot of orange. I remember that in a former issue of THE GARDEN readers were warned against this aggressive Lily. In my own experience a draft of Alstrœmerias fought a great fight with a colony of the Rose of Sharon (Hypericum calycinum), than which I had previously known no more persistent trespasser. The Lily won, pushing its growths through and over the Hypericum and keeping outside its own ranks every intruding outpost of the other. For this gallant warfare, still more for its splendid healthiness and gorgeous colouring, I have been bold enough to ignore the advice referred to above, even though it fell from the pen of an expert.

Such, in epitome, is the story of my garden in this grievous year of drought. What is going to happen now that the ban against watering has fallen upon us I fear to think. True, the gardener and his assistant will work at the pump like seamen on a water-logged vessel, but their efforts will avail to little more effect than to keep the indoor Carnations and Chrysanthemums alive. Unless the blessed rains come quickly, the garden will just "go out," and it will be my sad lot to "start from scratch" again, with nurserymen's prices at more than war level, because they, too, have suffered wholesale losses, and all garden lovers will have distressful gaps to fill. So I end my lament in the words with which it began, "The poor garden!"

Stratford-on-Avon. R. H.

EVERY GARDENER HIS OWN HYBRIDIST. WHY NOT?

Surely you have some favourite flower? Some one plant that "gets there" with a stronger appeal than all the other wealth of beauty ranged in the garden put together? This being so, what are you doing—in the way of experiment—to lift your favourite on to a still higher plane?

EXPERIMENTAL hybridising in a small way, by amateurs, is one of the most fascinating phases of gardening. First, there is the thought and consideration that must be given to many points before the initial operation can be performed. Mere unintelligent mixing of pollen is useless. Look well to your plants and select, either for some especially brilliant colour, fine form or other desirable feature. The seed parent is the one that is to bear the pods: the pollen parent that which provides the fertilising dust which is to vary or differentiate the offspring by (we hope) combining the best characteristics of both parents into something new and superior to any existing variety. The actual operation itself is more or less simple and is performed as follows: Wait until the stigma is prominent and slightly sticky in appearance, then take some of the dry dusty pollen from the pollen parent and dust this on to the top of the stigma. This is important. Pollen on the side is inoperative—it must be placed on top of the stigma, from whence the conducting channels run to the ovaries, to ensure their fertilisation. So much for the actual doing: let us now consider some of the essentials to making a good hybrid. Before doing so, however, there is one more point that I want to make. Flowers vary in this way. Some contain the essential elements of both sexes combined in one flower, while in others they

are separated--either on different flowers on the same plant, or different plants are of different sex. In the case of the latter one has no trouble at all. With the former—where one has a combination of stigma and anthers side by side—the anthers must be cut out at an early stage before they burst and shed their contents. If this is not done, you may very easily find that Nature has stepped in in advance, and you have not effected a hybrid at all.

Get the difference between a hybrid and a cross perfectly clear. A cross simply means that you have transferred pollen from one variety of the same species to another. Hybridising, on the other hand, means that you have transferred pollen from one species or variety of a species to the stigma of a distinct species or variety thereof, in the hope of evolving a plant distinct from either. Choose plants that are nearly enough akin to assimilate. The structure of pollen grains varies enormously, and their union can only effectually be brought about where there is sufficient affinity between the two parents. For instance, it is hopeless to attempt the crossing of a tuberous Begonia with the small-flowered, fibrous-rooted forms, or a Primrose with the large Chinese Primula of the greenhouse. Choose varieties that are sufficiently akin to offer a hope of uniting, yet sufficiently different to give scope for variation in the offspring.

Keep a record of all that you do. The name of the pollen parent should be written first, then a × by, followed by the name of the seed parent. Add the date and a number under which the seed is to be packeted and grown, and then, in a final column, the result—if any—to be entered up. Do not overlook the fact that small variations found in the first generation should be carefully segrated and grown on—both the parent plant (if it be perennial) and seedlings from it. A single small spot or mark may—and indeed often does—become far more pronounced as time goes on. You must not expect great leaps. A tiny variation, persistently followed up, may lead to a big reward.

Make your cross after due thought, when the sun is shining and the pollen and stigma both ripe. Protect from further fertilisation by insect or other accidental agency, and harvest the result when fully ripe. Sow under the best conditions, and look out for small indications of variation in the first generation. A slight difference in the colour on the reverse side of the foliage or on the stem, a tiny fleck of differing hue on the edge or at the centre of the petal, a slight crimping of the edge, even the production of an extra petal may all be pregnant with meaning and form the groundwork upon which to build up astonishing things. Weed out mercilessly anything that is poor, either in constitution or colour, etc., later; but examine everything with hawk-like scrutiny for the faintest difference. Many and many an amateur hybridist throws away his chance by failing to recognise the initial signs. Do not expect big leaps, these rarely come; but leap upon any small differentiation and painstakingly work it out to its ultimate end. Your reward lies in the fascination and interested observation of each plant as it flowers, with the great goal of a really new break and advancement of your favourite always in mind. Go in and prosper

C. W. CANNING-WRIGHT

Tufted Pansies in Southern Gardens

IT cannot be gainsaid, I think, that the life's year of every important group of hardy plants presents opportunities both for seasonable and advantageous reference. For the subjects above named, and in the particular connection cited, nothing appears to me as of such importance as timely propagation and seasonable planting. To any success that might later be achieved these things are vital; that is, if the success is to be worthy of the name. Hinging heavily on such matters are the early establishing of the plants and a development not otherwise possible. A greater power to endure, and the wealth of bloom resulting from the special phase of culture one has in mind follow naturally. In other words, if in southern gardens the potential wealth of flowering of these Tufted Pansies is to be developed, no makeshift methods of propagation or planting at any convenient moment will bring the cultivator to the desired goal. Increase by division and spring planting are among those things which bring failure in their train. Spring planting, too, in light, much-drained soils, even when the best of cuttings are employed—unless special cultural means are adopted—is also a prolific source of failure, and the knowledge that they are rarely seen to perfection in southern gardens, together with some of the causes commonly contributing to their non-success, have prompted these notes.

In passing, it may be stated—not so much for personal boasting, as for a desire to encourage others like circumstanced—that for years I grew and flowered them to perfection in a soil far removed from the ideal—a soil light and shallow, naturally becoming dust dry under stress of heat and drought; below it a bed many feet in thickness of gravel and sand. It was under such conditions that I set myself the task of growing these wondrously beautiful plants, and the measure of the success attained surpassed all my expectations. As lovers of cool soil conditions these plants and their allies are well known. I endeavoured to secure what I regarded as an essential by removing 18ins. of the soil of the beds, discarding a few inches of the inferior and introducing a heavy layer of cow manure. Covering this with soil, the whole was trodden firmly, a cool-moisture-holding floor resulting, that I decided should stand the plants in good stead. I was not disappointed. The upper soil enriched and returned, all was ready for planting. To some the means employed might appear extravagant and unnecessary, though such things can only accurately be measured by the success attained and the permanent results achieved. In the instance cited they were deemed expedient because of the soil conditions named, though soil of an opposite character would need catering for otherwise.

A CLUMP OF VIOLAS HAPPILY PLACED.

The Question of Propagation Discussed.—Pitfalls of the amateur include the use of old flowering stems as cuttings and the division of the plants. The first, hollow and incapable of making a good plant even should they root, and exhausted withal, merit wholesale condemnation. Compared, too, with the youthful cutting, they are valueless. In my own case, with many thousands of plants to raise annually and at a time when other work pressed heavily, the "making" of cuttings on a large scale became impossible, and I found myself looking for a simpler more expeditious method of increase. I found it in the following, and, once decided upon, working on commercial lines, putting it into practice presented no difficulty. It consisted when the display of summer was past of cutting the old plants back to nearly ground level during lightly pricking up the soil around, and

A little fine soil was also introduced to the heart of each plant. A thorough watering followed. Subsequently, sprinklings were given as required. So treated, the old plants were crowded with new shoots in a surprisingly short time. In a month from the cutting down, the stronger of them pulled out for examination were found to be rooted, a half dozen or so of white threads attaching to each—a most encouraging sign. Here, then, was a *multum in parvo* system indeed. Without a single moment spent on the making of cuttings, here were hundreds—thousands—rooted and of the best, every cutting a basal one, endowed with powers of radicle reproduction as only basal cuttings are. Than this nothing is more important. By its means the spreading tuft, the carpeting habit are ensured. To pull out the plantlets, when 2ins. or 3ins. long, from the tufts and prick them in beds of prepared soil in order that they might become established was the next step. Watered and otherwise cared for they never looked back. When it was seen that they were taking to the fresh soil the point of each plant was removed in order to encourage basal growth. As showing the prolific character of these cut-back plants, it may be said that from 100 to 200 plantlets were possible from a good plant; hence a score of thousands of plants were readily obtained.

Before leaving the question of propagation, may I say a word or two as to the—almost invariable—rule of calendar writers recommending without qualification September and October as a good time for taking cuttings of these plants? In October they should be good plants fit for permanent positions, and at best could only hope to play second fiddle to those one has in mind. Should it be urged that in private gardens the cutting back in July could not be tolerated—the plants being then required for flowering—that might be met by planting reserve plants apart for purposes of propagation.

As to Planting, late September or early October is to be preferred for the plants raised as above suggested. They are then compact tufts with several sturdy basal shoots, and the soil being still warm they take readily to it. Dressing the beds with ashes from garden rubbish fires prior to putting them out is well worth while. Keeping the surface of the beds practically level with the surroundings is also a good plan. Among the material advantages of the system are that the plants early become established and by the end of the year have formed tufts often with a score of shoots. Their early flowering, too, is proverbial. I have had them bristling with buds even under a mantle of snow. In these respects no other system of cultivation can compare with it. It is at once responsible for a sward-like habit of growth—when the true tufted sorts are employed—and a prodigality of blossoming that, while goodly to see, cannot be surpassed. As the outcome of simple and rational treatment it also certainly merits attention. A word may be added as to the longevity of the plants so grown, which perhaps only reach the zenith of their flowering in their second year. To those who dabble feebly with these Pansies on the annual plan, planting in spring, those one has in mind would prove a revelation, whether for colour, variety, or cool, refreshing appearance even on the hottest day. In addition to good or even generous cultivation—digging and manuring—a dressing of lime is to be recommended.

Varieties.—For the purpose herein indicated the large flowered types—Archie Grant, Moseley Perfection and others—should find no place. Large and effective when in bloom, they are neither early flowering nor profuse. Such attributes come from the true tufted sorts: Bullion, Countess of Hopetoun, J. B. Riding, Dunbryan, Mrs. E. A. Cade, Purple Bedder, W. H. Woodgate, Redbraes Yellow, Kitty Bell, Winchmore Bedder, Swan and Waverley. Of necessity, so brief a list might be extended. Those given, however, are reliable and good. E. H. JENKINS.

RASPBERRY DECISIONS

"Alliteration's artful aid" would have made my title "Raspberry Reflections," implying considered thought of the work which ought to be done now in this favourite, delicious fruit. This is not a theme for such a course, but for action—firm decisions made and carried out promptly in the direct interests of future crops.

AGE commands respect, youth must be served. These truisms can be applied aptly to the Raspberries in our gardens. The canes sent up last year which have carried, or are carrying, this season's yield command our respect for services rendered; the young ones springing numerously about them call for attention insistently as those parts of the plants which have their value in front of them.

In some fruits it is difficult, in others impossible, to say definitively that the crop is carried on spurs on the old wood in the one case or on young wood in the other case, but there is no abstruse problem demanding solution with Raspberries—the whole of the fruit is produced on the growths made in the previous year. The fruiting rods of the current year have, therefore, no value when the harvest has been garnered and we are driven irresistibly to our first decision—to remove them. Their valuable life has run its short course and they should be sent the way of all useless things. And the quicker the work can be accomplished the better. The retention of these growths for weeks, sometimes for months, after the whole of the fruit has been gathered is one of the common errors. As long as they remain they are no better than weeds; they are robbers of indispensable foods; depriving those parts of the plants which have a fruitful period in front of them of the sustenance they must have. Not that alone; they deprive the useful parts of the strengthening influences of light and fresh air. Adopt the decision boldly, to cut out all Raspberry canes which have fruited, and thus serve future interests handsomely.

The second decision is in relation to the young growths and it must be regarded as similarly unalterable. The bed which was admirably made at the outset and whose nourishment has been maintained by autumn and spring mulchings of suitable natural manure with concentrated foods on occasion, perhaps, will produce young shoots so numerously that it may quickly become a tangled thicket. Since thin disposal of these canes is imperative to perfect condition, thinning out must be done with no tender hand. Circumstances, as we all know, alter cases, but it is safe to accept it as a general rule that six young rods shall be reserved at each stool and they will be trained subsequently according to the conveniences and opinions of the grower. They will have the full value of all the food constituents in the soil and the inestimable benefits which unobstructed light and fresh air confer.

The third decision must govern the action which will be taken in the case of all superfluous growths after the requisite six have been chosen for their merits. There will be many close to the rootstock and just as many others—suckers so-called—rising at varying distances from it. Eventually all have to go, but it must be decided whether the task shall be done in one operation now, or in two—a moiety at once and the other moiety later on. It is necessary to consider the point only when it is purposed to plant new beds during the forthcoming October and November. If no such work is contemplated proceed to total clearance in one operation: if it is to be done, remove the growths near to the rootstocks and also the suckers, except such of the latter as may be required for imminent extensions.

Then, too, there must be the decision to keep the beds free from all weeds, even those of an annual, surface rooting nature. It is not possible for the plants to derive direct or indirect benefit from them, and it is quite certain that they will rob the fruiting canes of at least a modicum of food.

Finally, it should be decided to apply a good mulching in October or November, and a constant watch ought to be kept on the manure heap to ensure that the quantity needed for this specific purpose will be at command when the moment for spreading comes.

Do not forget that in a dry August nothing is more invigorating and helpful than a heavy soaking of water forthwith and a second equally generous supply about a fortnight later. W. H. LODGE.

GRAPE SCALDING

THIS is a disease from which the amateur's Grapes suffer more damage every year than, perhaps, any other. As it is one of those diseases of the Vine which is preventable to a great extent, a line on the subject at the present time may be of service to your readers. Grapes on Vines which have been permitted to start into growth in a natural way, without forcing, will have now arrived at that period named stoning time, meaning the time when the seeds or stones are formed. This process of seed-forming is a great strain on the Vine and, in consequence, it will be observed that the berries will not appreciably increase in size for a period of from three weeks to a month; in fact, the general growth of the Vine is more or less arrested during this time. It is important that the grower should help the Vine and its fruit to pass through this term unscathed. The only way in which this can be done is by lowering the temperature of the vinery during this time and so, as it were, giving the Vine more time in a cooler atmosphere to carry out this important work. The way to lower the temperature is by the admission of more air into the vinery during the daytime as well as at night (and all night) while the weather is favourable, Do not be afraid of giving too much air at this critical time in the Vine's growth—especially while this hot weather continues

To many it will appear difficult, no doubt, to find out when the process begins and when it ends. In the former case cut a berry in two and you will soon see whether the stones are in course of formation or not. To find when the work has been completed, observe the berries closely and as soon as they begin to change colour you may

conclude that the process is over and that the Vine is at liberty to resume its freer growth. To help it to do so more effectively reduce the quantity of air given, thereby increasing the temperature, also its humidity by syringing the borders and paths freely in early morning and late afternoon. If the Vines are forced through this stoning period in strong heat the consequence will be that fewer seeds will be formed or imperfectly formed, and farther on the result of this will be found in a depression on one side of the berry which will afterwards turn black as if par boiled, and frequently result in decimating the bunches of usable Grapes to mere skeletons. O. T.

CORRESPONDENCE

A HINT ON CULTIVATING PRIMULA ROSEA.

I WAS interested the other day at the way in which Mr. J. A. Holms, of Formakin, Renfrewshire, manages his plants of Primula rosea. As is well known, this Primula has a tendency to rise out of the soil, so that either top-dressing or replanting more deeply is required if the plants are to be retained in good health. Mr. Holms lighted upon the plan of laying stones among his plants, something after the fashion in which Daphne Blagayana is treated by those who seem to succeed with it best. The result at Formakin is that the plants are extremely healthy and do not flag in dry weather to the extent that they are apt to do when treated in the ordinary way. In the torrid weather of the early days of July, on the hottest day of the season, the Formakin plants showed a few signs of unhappiness until the sun began to decline, when they picked up again and looked as cheerful as before. The stones were of varying size and probably a mulch of 2ins. of good gravel would have an equally good effect.—S. ARNOTT.

THE MULBERRY AS AN ORCHARD HOUSE TREE.

WHILE looking over the very interesting orchard houses of Messrs. T. Rivers and Sons, Sawbridgeworth, I was greatly interested in a standard Mulberry tree of many years growth bearing a heavy crop of berries. Promoted to this position of dignity under glass our humble old friend was scarcely recognisable, even in appearance, but when we came to tasting the fruit the change was vastly greater, the difference being as marked almost as that between a Gros Colmar Grape and a Muscat of Alexandria. The fruit, instead of being soft and flabby and of a more or less nondescript flavour, is firm, sparkling, luscious, rich and exceedingly sweet and pleasant. To those possessing a cool orchard house let me urge them to add a tree or two of this old friend to their collection.—OWEN THOMAS.

SALINE ALPESTRIS.

FEW will disagree with the late Mr. Farrer's opinion of this fascinating little plant, for it is certainly none other than one of the "very highest rank . . . a first-class treasure . . . an altogether indispensable delight." It is one of those alpines whose peculiar charm cannot be defined. You may say it is neat and well-bred, that it never gives trouble nor expects special attention: the purity of the whiteness of its quaintly notched flowers may appeal strongly, as may its habit of flowering unfailingly every year and for so many months. Yet none or all of these seem fully to explain why nine out of ten will stop to admire it, to ask its name while passing by much more striking subjects. Though naturally a lover of moist places, S. alpestris will do in practically any soil with an open exposure. It makes a growth of about 6ins. to 8ins. in height and in some gardens seeds freely, though never to the extent of becoming a nuisance. There is a double form hardly less beautiful.—J.

THE "BLUSHING BRIDE."

I AM enclosing three small photographs which may be suitable for THE GARDEN. Barosma crenulata, one of the Buchus, is here shown in flower. (Not suitable for reproduction.—ED.)

A RARE SOUTH AFRICAN PLANT, SERRURIA FLORIDA.

The blossoms are a little over half an inch across and of a pale heliotrope colour. This bush was about 2½ft. high and was grown at Kirstenbosch—the National Botanic Gardens. The sale of the leaves has been a considerable help to that institution. Serruria florida, one of the rarest Proteas, also photographed at Kirstenbosch, is, says the Curator, "called the 'Blushing Bride' of French Hook, where it is native, and only a few plants now exist there. It was evidently under cultivation in Europe when 'Cape plants' were more or less the favourites." One photograph (reproduced) gives a complete plant about 3½ft. high; the other showing a cluster of blossoms on a larger scale. The flowers are the size of an average Rose and white.—ALEXANDER MENNIE, *Cape Town*.

THE SPREAD OF A BEAUTIFUL WILD FLOWER.

HAS not Epilobium angustifolium become much more abundant of late years? Many years ago, although not uncommon, it was not found all over the country—found, happily, where it is most wanted, converting rubbish tips and waste places into spots of beauty with masses of its brilliant flowers. Œnothera taraxacifolia, raised from seed, gives us great pleasure. Every evening we find eighteen or twenty fresh, pure white flowers on about twelve plants.—F. A. STURGE.

VARIEGATIONS IN GERANIUM PHÆUM.

MENTION was recently made in these columns of the uniformity and persistence of the deep purple blotches on the foliage of this interesting native. It will, perhaps, interest Mr. Bowles and others to learn that a few years ago I found a plant with not only purple blotches, but with clearly defined areas of creamy-white and bright carmine on the leaves. Seedlings which have come up in all sorts of places have inherited the same peculiarity. In some of these the flowering stems, even to the calyces, are white, which makes a peculiarly effective setting for the dark vinous flowers, which latter are, I think, rather larger than those usually seen in the wild plant.—A. T. J.

A PLEA FOR THE FUCHSIA.

THE Fuchsia seems to have dropped into the background nowadays, and yet for anyone with a cool greenhouse there are few more suitable or accommodating plants. I think, perhaps, if those interested in them would contribute notes on their varieties to the gardening Press it might help to revive interest in this very deserving and beautiful plant. A few years ago the writer procured a few varieties from Mr. H. J. Jones, Ryecroft Nurseries, Lewisham, and since then a few additional sorts have been obtained from the same source. In the following notes I hope to mention those that have proved most successful and have been most generally admired. Jeanne d'Arc: I unhesitatingly give this first place and consider it the most beautiful of the Fuchsias that I have, up to the present, seen. The colour is difficult to describe; the sepals which are reflexed, are of a delicate salmon pink shade; the corolla opens violet blue in colour, changing in the fully expanded flowers to rosy violet. This is a wonderfully free-flowering sort, but unfortunately, Mr. Jones has had temporarily to withdraw it from the market owing to shortage of stock. Prince of Orange is a very handsome variety, drooping in habit and free-flowering, the corolla of a deep reddish orange, while the sepals are broad and of lighter colouring. Swanley Yellow: This Fuchsia is similar in type to the last mentioned, but the flowers are smaller and of a more yellowish orange colour, while the foliage is larger. Thalia is a beautiful hybrid from F. triphylla. The foliage is very ornamental and of bronze colouring. The flowers are produced in clusters very freely and are orange red in colour. This variety should be in every collection. Vera Sergine is a very pretty variety of delicate colouring. The sepals are broad and reflexed as in Jeanne d'Arc, while in colour they are white faintly tinged with pink; the corolla is semi-double and almost white. Not so free-flowering as Jeanne d'Arc, but nevertheless, a very beautiful and attractive Fuchsia. Elsa: Corolla double, rosy violet in colour, sepals cream and pink. The flowers are large and freely produced; it is not quite so vigorous in growth as some of the other varieties. Isabelle: A huge flower, sepals bright red, double white corolla veined carmine. Pasteur: Another large-flowered sort; the sepals are red and the corolla white, heavily veined deep red. The

variety and Isabelle are the largest flowering Fuchsias we have, and while not so free-flowering as some, are well worth growing. Princess Dollar: A dwarf grower, producing a profusion of small double flowers, the sepals of which are bright red and the corolla purple. The flowers are not of very good form, but the plant is so free-flowering and bushy in form that it is worth a place in a collection. It makes a good pot plant for indoor decoration. Rolla: Another delicately coloured Fuchsia; the sepals are cream, shaded pink, the corolla double white; a very beautiful variety. Avalanche: An old variety with very large double flowers; the corolla is purple and the sepals red. Earl of Beaconsfield: Another old sort of the same type as Prince of Orange and Swanley Yellow. The colour is not so bright as in the former, while the flowers have a much longer tube. We have several other beautiful varieties, but as I am not very sure of their names I am omitting them from the above list which, however, should be large and varied enough for anyone wishing to start a collection. For those who have only room for a small selection I would suggest the following half-dozen in order of merit. (1) Jeanne d'Arc, if this is unobtainable, as I fear it is, then Elsa might be substituted; (2) Prince of Orange, (3) Thalia, (4) Rolla, (5) Avalanche, and (6) Pasteur. It seems a pity that the Fuchsia has no society to promote its interests, but let us hope that in the not far distant future it may receive a larger measure of support, to which its many merits surely entitle it.—CECIL M. BAILEY, *Belfast.*

AN INTERESTING FIND.

MR. COLLINGWOOD INGRAM'S notes on his interesting find in the Haute Savoie brought back to my mind similar finds in the Val d'Herens, Valais, in 1909, when I was delighted to come across various colour forms of dwarf Gentians of verna cousinship. I do not think that any of my finds were typical Gentiana verna variations, but rather colour forms of the nearly allied G. brachyphylla, which finds I recorded in your contemporary, *Gardening Illustrated* some time last year. I have also on more than one occasion found colour forms of G. angulosa, another close relative of the vernal Gentian, of which my proudest possession was a beautiful albino form of wonderful substance, great purity of snowy crystalline whiteness and great freedom of flowering which died out during the war years. Of Gentiana verna I know only very slight variations, a slightly darker and a slightly paler form of the typical wonderful blue, which, however, were not constant and reverted to type in following years. Of G. brachyphylla I have had pale blue, white blue margined, pure white, an ugly inky blue, and a horrible blue and white striped Harlequin form, all of which I have now lost again. And of G. angulosa I had a heavenly pale blue form with rather yellowish leaves, which was not very happy and soon died, beside the fine albino form which lived with me for about eight years. I knew a whole colony of various coloured forms of G. brachyphylla at Wisley during the years 1917–18. These were all home-raised seedlings of collected colour forms, and passed under the name of G. verna, and varied from pale blues to ugly purple shades. They were planted out in a low-lying place where Mare's-tail was troublesome, and during a wet winter the whole colony, about two hundred plants, died out. Since then I have had no dealings with colour forms of the small Gentians, but I hope that Mr. Ingram will succeed in establishing his Forget-me-not blue form, which I suppose is really a form of G. brachyphylla, and obtain seeds from it and raise a generation that, in all probability, will contain numerous further variations of colour.—W. E. Th.I.

A FINE ROSE LUPINE.

I AM sending you a photograph of a seedling Lupine (now four years old) flowering in my garden. It had fifty-nine spikes in full bloom at once. The colour is a lovely soft pink. I am wondering if this is at all out of the usual for the number of spikes. I raised it myself and have given it no special attention, and would like to know whether it would respond to feeding with manure, &c., and would it be advisable to divide it or let it remain growing on. Last year it had about forty spikes.—JOHN GIBSON.

[Our correspondent has a remarkably fine clump of this valuable flower. The vigour of plants from seed, so often emphasised in our columns, is strikingly illustrated. Our correspondent would be well advised to save some of the seed and raise another batch of seedlings. With regard to the parent plant, we should be inclined to leave it for, at any rate, another season. Lupines do not re-establish themselves very quickly after division. If the soil is sweet and not deficient in potash or phosphates, no special treatment should be necessary, as the plant, being leguminous, largely provides its own nitrogen.—ED.]

LUPINUS POLYPHYLLUS ROSEUS IN A READER'S GARDEN.

A ROSE WHICH LIVES UP TO ITS NAME.

A CORRESPONDENT, in your issue of July 16, writing in praise of Rose "Trier," remarks: "I know of no Rose that lives up to its name as this does." The variety is a Hybrid Musk, sent out by P. Lambert of Luxemburg, in 1904, and named, I believe, after the old French town of Trèves, which the Germans in those days altered to Trier (pronounced Treer, like beer). It certainly is a beautiful Rose, and one endorses all your correspondent's praise of it. But in what way can it be said that it "lives up to its name?"—J. H. P.

[Our correspondent was obviously indulging in a punning and, we think, justifiable, allusion to the spelling of the name of this beautiful Rose. We do not think, that our respected correspondent, J. H. P., has "treed" him on this occasion.—ED.

SILVER LEAF AND A REMEDY?

I AM sorry I did not reply before to several questions put by A. Yelsiwité in THE GARDEN, page 346, issue July 9. I may say that the leaves sent to the Editor were cut from the branch most infested by silver-leaf last year. The stem showed the brown stain when cut through. The epidermis was separated from the underlying tissue. The tree still keeps free from the disease, but red spider has now attacked it—as it has nearly everything else this summer—and the tree, with others, is being freely syringed.—GEORGE GARNER.

A FINE PLANT OF ROMNEYA.

IN the issue of THE GARDEN last week I read an interesting note from Miss Jekyll on the Romneya Coulteri. Last Sunday, July 17, I counted 229 fully expanded blooms on a plant we have here, and there are hundreds of buds to come out, and we have also picked a number of blooms. The plant is in a border on the south-east side of a wall, and is protected by a projecting low building from the south-west winds which are very prevalent here. A small plant was put in about fifteen years ago and has grown rapidly, and we have a large number of blooms every year. This year it has bloomed much earlier than usual. We cut it hard back every year.—B. A. THORNYCROFT, *Bembridge, I.O.W.*

THE TOWN GARDEN.

HAVING read with great interest the appeal, signed S. Warren Hagen, to make the most of a London garden I thought it might be of use to describe what has been achieved in that direction. Two years ago I took over a house in Chelsea which had a small back yard about 20ft. square, in which was a narrow border of weary Laurels, the rest consisting of blackened gravel with an edging of tiles. The border I promptly had dug up and the Laurels burnt. A load of good earth was put in, and in this were planted some herbaceous plants brought from the country. I cannot say the first year was a success, but on finding that the other part of the yard got more sun, we were filled with ambitious projects. A large piece of the gravel has been dug up, good earth makes three good-sized borders, and the paths are laid down with stone slabs. The whole has been well limed and manured and good earth put in, two small rock gardens made, and the result this year, in spite of the drought, has wholly fulfilled our hopes. A list of the plants grown successfully will perhaps prove this: Michaelmas Daisies, white Daisies, Japanese Anemones, Golden Rod, Honeysuckle, Solomon's Seal, Antirrhinums, Verbascum, Geum, Pansies, Canterbury Bells, Valerian, Lavender and Roses (Mrs. Christie Miller, Mme. Hartman, Ophelia and Mme. Herriot) have all bloomed freely. Of the smaller things, Saxifrage—the coarser ones—Aubrietia, Primulas and Alyssum have done fairly well; but they are more difficult to keep alive during the winter if there are any fogs. The only real pest has been slugs, but by the aid of lime and Sanitas powder these are slowly lessening. In conclusion, I may say the garden has well repaid the labour expended on it, and there is, of course, no difficulty in growing bulbs of all sorts from Daffodils to Gladioli, so that from April to August we have had a patch of bright colour to look at, instead of a grimy and cheerless back yard. The chief enemy is the soil, which is absolutely useless; but if that is replenished, and the plants protected from frost and fog, it is quite possible to grow flowers in London.—H. F.

BEFORE YOU LEAVE THE GARDEN

Some Valuable Hints for the Amateur About to Go on His Summer Holidays.

IT is never the right time to leave a garden for the summer holiday, but most of us do tear ourselves away during the coming weeks for a brief period. And I have often noticed that it is just here that a premature autumn forces its insidious way in and that the garden does not again resume the flowerful happy state that it enjoyed before we left it to its own devices.

There are long weeks of pleasure and enjoyment to be extracted from our gardens yet, and there need not be that "flattened-out" feeling and air of neglect apparent on our return if we will but put in a few hours of preparatory compensation for our absence before we leave. Some jobs—such as mowing the grass—should be deferred until the latest possible moment, others can be accomplished several days before our departure. Go over all the borders of hardy flowers and make sure that everything that stands in need of support is adequately tied and that the stakes are very firm in the soil. If you are going to give a final watering, do this extra efficiently and hoe the surface afterwards, so that there will be a friable protecting surface that checks evaporation. Next attend to the summer bedding. Everything that needs pegging down or pinching back should receive this attention and the surface be hoed all over in the same way and for the same reason as the borders. Do not spare the cutting of flowers. Leaving the garden almost flowerless is a great factor in its preservation for your return. Go over everything and cut armfuls of flowers for your neighbours. With the Violas and Sweet Peas this denudation should be extended to the buds and a proportion of the growths. They have both now reached the point at which, without attention, they slip rapidly downhill, but with a little care they can be rejuvenated for many weeks. Water them until the soil is thoroughly soaked, cut away the more exhausted growths that have done their share of flower production, then mulch with a thick layer of old lawn cuttings, leaf mould or anything else there may be to hand of a moisture retaining nature. Now, go over the plants with a sharp pointed pair of scissors and snip out all the most prominent buds. When you return you will find awaiting you an entirely new picture. The plants will have made new and vigorous growth and be bristling with new flowers and buds, while you have avoided the waiting time while they did so.

Make the garden holiday coincide with your own. Geraniums and any other plants that flower in heads, where the blooms open one after another, should have all those that are more than half used up cut, so as to reserve the vigour for those that—now buds—will be flowers to greet your homecoming

Much of the propagating work of such things as Geraniums can be done before you go. Take the necessary cuttings and insert in beds in the open ground and thus obviate any further depredation of the beds later in the year. Most of us have in the house a few pot plants that we treasure and these should, wherever possible, be handed over to the care of a friend with exact and explicit directions as to their needs. Failing this, water them very thoroughly by immersing in water up to the rim of the pot for some hours, then plunge outdoors in a shaded spot and cover with soil until the pots are hidden. Water the soil afterwards and you will find that they will not suffer during your absence On your return, you will find that the grass needs the edging shears, there may be a few caterpillars on the Cabbages, a Rose or so may have dropped its petals, and minor incidents of a similar nature, but you will be able readily to gather up the threads and re-weave them into a very enjoyable whole.

H. W. C.-W.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Lavender.—Where the spikes are gathered for drying it is best to cut them before the flowers are too far open. The flower heads should be quite dry when cut, and should then be thinly laid out in a cool, airy room to ripen.

Roses.—When the fully expanded blooms are gathered to dry for perfumery purposes they must be spread out thinly on sheets of paper or on sheeting in a room similar to that used for drying Lavender. Ramblers have finished flowering, so endeavour to get pruning done as soon as possible; this chiefly consists in cutting out old flowering shoots.

Antirrhinums required for early flowering should be sown during August. Sow thinly in shallow boxes and when strong enough prick out in about 3ins. or 4ins. of sandy soil in cold frames. The greatest enemy during winter is dampness. Plants grown from seed sown as above may now need the early flower-spikes removed, and this will give fresh vigour to the plants and they will yield another wealth of blossoms for many weeks during the autumn.

Gladioli.—Neat green stakes should now be in position for these excellent border subjects, and to avoid frequent waterings mulch liberally with well decayed leaf soil. This also applies to Hyacinthus candicans.

The Kitchen Garden.

General Work.—The system of sowing certain varieties of vegetables during July and August for the supply of young roots during autumn and winter will probably be more extensively followed this year than usual owing to the exceptionally trying climatic conditions prevailing, which has rendered the constant maintenance of fresh young roots, &c., a most difficult task during early summer. A plot of ground from which early Potatoes or Peas have been cleared will provide a most suitable spot for a further sowing of such varieties of vegetables as are given below. Early maturing sorts should in every case be chosen, and instead of transplanting the seedlings when ready they should only receive the necessary thinning and be allowed to grow away unchecked in the drills as sown. Vegetables most suitable for this treatment are Beet, Cabbage, Short-horn Carrot, Lettuce, Onions, Peas, Spinach, Turnip and French Beans. The latter should be sown where protection can be given on cold nights when fruiting.

The Hardy Fruit Garden.

Netting.—Birds are more than usually troublesome this season, and are attacking practically all fruits, making netting a most necessary work. See that all nets are in position in good time, as birds are making ravages on green and unripe fruits.

Peaches and Nectarines.—Early varieties on walls will be nearing the ripening stage, and should be netted, not only as a protection against birds, but also to catch ripe fruits should they fall. Copious waterings of clear and manure water should be given trees carrying heavy crops, but this should be discontinued when fruits approach the ripening stage. The same remarks apply to Apricots.

Plants Under Glass.

Freesias.—To get the best possible results from these beautiful bulbous subjects potting should be done in August. If inconvenient or undesirable to pot up the whole of the bulbs at once, the operation should be done at the beginning of August and again at the latter part of the month or early September, thus prolonging the season of flowering as much as possible. Freesias delight in a fairly rich and porous compost, and thorough drainage is essential. Pots 5ins. and 6ins. in diameter are the most suitable, allowing from six to ten bulbs to each pot. After potting place them on a bed of ashes in a cold frame and give one good watering, afterwards covering with finely sifted leaf-soil or matting material until growth starts. For general purposes, and especially for early work, F. refracta alba is indispensable, but some of the newer varieties should also be included if possible.

Fruit Under Glass.

Early Vines.—A clearance having been made in the early house, see that lateral growths are still held in check so that they do not prevent a free circulation of air reaching the important buds or exclude sun or light, so essential for ripening. If the border be at all dry give a thorough soaking with diluted manure water, and to keep the foliage vigorous and clean a copious syringing should be occasionally given. Should any shading have been put on the house while bunches were hanging, this should now be removed and the house kept fully open at all times.

H. TURNER
(Gardener to the Duke of Northumberland.),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cabbage.—Seed should now be sown to obtain the necessary quantity of plants for autumn planting. Opinions differ somewhat regarding the best time for sowing, but we find in ordinary seasons that if sown during the first week of August the results in spring are quite good. The two most popular varieties for early work here are Harbinger and Flower of Spring. Harbinger is, if anything, a little quicker in firming up than Flower of Spring, but both are delightfully compact in growth and can be planted closely. Sow the seed thinly and encourage sturdy growth.

Leeks.—A further planting may be made to provide a plentiful supply during the spring. Put them out in drills drawn at 18ins. apart and 2ins. or 3ins. in depth. Plant with an ordinary dibber and the soil will be gradually worked back into the drills later on. Leeks planted some time ago may be given liberal supplies of manure water. Stir the soil frequently between the rows and keep a loose surface.

Celery.—As prevention is better than cure, time should be found to give the foliage of Celery a slight dusting with soot and so make it distasteful to the Celery fly. This pest, if allowed to breed, practically ruins the crop, as when the foliage is badly perforated and blistered growth is naturally retarded.

Garden Refuse.—Accumulations of Cauliflower and Cabbage leaves, if not used in the poultry run, should be cleared off to the rot pit and so rid the garden of an offensive odour. Nothing is more aggressive at times than the sulphurous fumes from decaying vegetable matter. If properly handled in the rot pit and mixed with any old potting soil, a valuable manure is available for digging or trenching into the vegetable quarters during the autumn or winter months.

Fruits Under Glass.

Vineries which have been forced early and have now been cleared of the crop should be attended to and the border given a thorough soaking with water. Utilise the garden engine and give the rods and growths a thorough wash down, as this will be of much benefit and clear out vermin. Should mealy bug be in evidence, go over the rods carefully and destroy this pest.

The Orchard House.—Trees which are carrying heavy crops should still be assisted with feeding, and where particularly large fruits are showing these should be supported by small nets or by any other simple contrivance that may suit the ideas of the grower.

Plants Under Glass.

Begonia Gloire de Sceaux.—As this attractive Begonia is generally somewhat late in throwing cuttings, the first batch is only now ready for moving into 5in. pots. Treatment similar to that accorded the Lorraine section suits them well, keeping for a period in a close shaded pit and

syringing regularly. Give a spray occasionally with a weak solution of "Abol" insecticide so that thrip may be kept in check.

Perpetual Flowering Carnations.—Plants which are well rooted in their flowering pots may now be stimulated by waterings of soot water or other light stimulant and so encourage strong foliage and flower stems. Syringe at regular periods with insecticide suitable for keeping rust in check and fumigate on the appearance of aphis.

Zonal Pelargoniums for winter flowering should be kept growing as sturdily as possible so that firm, short jointed plants may be ensured. A goodly number of semi-double varieties should be grown, as these are most useful for cutting during the winter months, and remain in condition much longer than the single varieties.

Salvia splendens.—Pot on early struck batches of these into their flowering pots and so obtain handsome specimens. Nothing proves more attractive in the conservatory during the winter months than the showy flower heads of this decorative subject.

Calceolaria Clibrani.—It has been remarked that this graceful type bears the same relation to the large flowered Calceolaria as the Stellata type of Cineraria does to the old-fashioned type of florists' Cineraria, and I think this is correct, for no matter how gorgeous in colouring the large type may be, they lack the grace and decorative qualities which make Clibrani so much admired. Second year plants may be potted on now and grown into specimens 4ft. in height, and as they are of exceeding easy culture, no establishment should be without a few. Cold frame cultivation suits them well and the hardier they are grown the better. Cuttings taken from plants cut over some time ago root readily now and if grown on steadily will make fine plants for late spring flowering. Dibble the cuttings into a fairly deep box of leaf mould and sand, placing a piece of shaded glass over the box to keep it close until root action takes place.

JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart.),

Coodham, Kilmarnock.

CAPE BULBS FOR COOL GLASSHOUSES

THE opening up of South Africa and the gradual improvement in communication between that distant land and our own shores gave to "Cape" flowers, as they are popularly called, a prominence and an importance in Victorian and Edwardian gardens second to none, and once again I seem to see the vogue of the "Cape" coming upon us. Now, however, it will not be "heaths," as in the early part of the long reign of Queen Victoria, when a "Heathery" with its wonderful assortments of Ericæ and Epacrideæ was a prominent feature of the best gardens of the age. Those distant years seem to have been a time when separate houses were provided for different genera or groups, with a bountifulness which is unknown at the present, when "mixed houses" like "mixed bathing" are all the "go" and practically only Orchids and Carnations are catered for individually. History may well repeat itself, and a feature that may easily and suitably give a character to the Georgian garden is the Cape Bulb House. This present article is being written to advocate its coming into being, not that I would for a moment suggest the erection of a new structure, only the utilisation in a new way of that which already exists, inasmuch as economy has willy-nilly to be for many the order of the day.

Why a Cape bulb house then? First, because it is one of the least costly ways in which to garden under glass. The bulbs which are in my mind are just not hardy and hence they require only a minimum of fire heat—almost none in warm, favoured parts of the South, and even in the colder Midlands and North probably three months "firing" will be sufficient. Then again there is no necessity for a great heat. A high temperature is a mistake for these bulbs. Very little beyond keeping the frost out is necessary. A maximum of about 50° is sufficient. When sun heat raises it, increased ventilation must be given to minimise the rise, but a cold cutting draught must be avoided like poison. From all this it follows that the amount of fuel required will be much less than when a high temperature has to be kept up, or when heat has to be constant.

Another important reason for my advocacy is the seasons of the year when these bulbs bloom. Flowers are, I think, appreciated in the early months of the year more than at any other time. How often is the remark made, "I must say there is something about the spring bulbs and flowers which we do not get with any others." A Cape bulb house would pre-date this season; that is all, or perhaps I should rather say it will increase their number. Winter Aconites, Snowdrops, Crocuses Imperati, Sieberi and Tommasinianus, Iris reticulatus, and other late-flowering favourites need not be given up out of doors; there will be bulbs under glass as well, for it so happens that the genera which I have in my mind will flower at the same time as these and with a little management continue to "blow" until spring has grown up into summer and outside flowers are to be had in abundance. A second point in their favour is the ease with which they can be had in flower in the early part of the year. Lachenalias will set the ball rolling in February or in such a season like the present, in January, and then one by one we will have Freesias, Ixias, Babianas and so on, not to omit Nerines, which are my October and November flower and which require housing all winter in order to give their foliage a chance to grow and mature so that there may be blooms another year.

One more good point about them. It is not a very expensive matter to set oneself up with a stock of the particular varieties or species that we fancy, and after the first outlay we can be our own nurserymen and grow our own bulbs from year to year. Turn up THE GARDEN for February 5 and see, for example, how Lady Byng of Vimy tells us she carried on with her Freesias during the war. I know many who do the same, and not only do it with Freesias, but with other Cape bulbs as well. A present last autumn of some dear little white Sparaxis bulbs from Mr. E. A. Bowles which he had grown himself proclaim the same fact; but why multiply instances. Is not it likely that the ways of the goose are similar to those of the gander, and the sort of management we give to the one will do for the other? So the third point in favour of what I am urging is the comparative ease with which we can keep up our yearly supplies. Perhaps what has hitherto been implied had better now be stated clearly, for who knows but that some who figuratively "cannot pot Begonias and who cannot bud a Rose" may be caught in the net which is spread; and, being caught, want quite elementary "tips" to start them. One or more frost-proof frames are necessities to act as feeders and digesters; that is, protectors and ripeners off of the foliage after the plants have done flowering, for a sudden chill upsets them much as it does human beings and must be avoided.

What, now, are the Cape bulbs that are in my mind? The list that follows is by no means an exhaustive one for several reasons. The exquisite Lycoris aurea is beyond the power of the ordinary amateur who lives in the British Isles, to flower; Veltheimias are more for the "curious" than for the "man in the street" who wishes for something bright and pretty; Antholyzas are too late and too uncertain; and so on. These and other genera will serve to keep up our interest when it requires a stimulant. But it will be a long while before this happens, for the more ordinary plants are so many, and their varieties so very numerous, that it is safe to say that anyone going in for them is assured of a good innings before the end is reached. Bare names must suffice for the list. They will at least show the wide choice there is among these almost hardy bulbs. Lachenalia, Freesia, Sparaxis, Babiana, Ixia, Anomatheca, certain Gladioli, certain Oxalis, Tritonia, Amaryllis belladonna blanda with its delicious scent, then a whole host of later-flowering subjects which hardly come under the present purpose for which the growing of Cape bulbs is suggested, and from which I pick out Nerines as being so well fitted to grow in conjunction with the above. One last word, if Roman Hyacinths, prepared Hyacinths, early-flowering Tulips and Daffodils be added as space permits, there is no reason why anyone should be without a flower all the dull winter months.

J. J.

The Coronillas or Crown Vetches.—In many parts of the country these will thrive and prove hardy except during a very severe winter, and even then a little protection with a few evergreen branches will often keep them from harm. C. glauca is an old friend in some gardens, and probably some grow it as a pot plant for decorating a cool house. It is, however, seen at its best when grown outside either in the shrubbery or as an isolated specimen on the outskirts of the rock garden. In such a position it succeeded for many years at Castleford, Chepstow, but it was killed during the exceptionally severe winter of 1916–17. It was then about 4 feet high and as much through the centre, while the fragrant bright yellow flowers were conspicuous throughout the year. The foliage is attractive and, as the specific name indicates it is glaucous, altogether a pretty little shrub. Anyone living in the South or West should give it a trial, and in most gardens a sheltered nook can generally be found. The Scorpion Senna or C. Emerus is quite hardy, deciduous and more slender in its growth, which renders it suitable for a wall. It will succeed on a wall with a north aspect, and flower freely in May and June, while a few blooms appear even in November. If planted in the open it would make a specimen 5 feet to 8 feet in height, and as much through if allowed to develop. Both these species should be placed in well drained soil. Propagation is effected by cuttings, which will root at almost any time. Another kind worth growing is C. velutina, but it is not so attractive as the preceding.

A gem for the rock garden is C. cappadocia, a neat prostrate form with foliage about 4 inches from the ground. The bright golden yellow flowers are freely produced during July and August, and it should be included in every collection of rock plants, for few are more charming and attractive. If given a sunny position in light sandy loam, it will grow freely and prove quite hardy. In a chink of some irregular steps it is often most effective, and in other sunny, dry parts of the rock garden it is equally successful. It can be increased by division. This plant is also known under the name of C. iberica.

C. varia or Crown Vetch has rosy yellow flowers, and is well adapted for a hot, dry part of the rock garden, and the same remark applies to the prostrate-growing C. minima.

THE GARDEN

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NOTES OF THE WEEK

[August 6, 1921.

A LETTER from a New Zealand reader printed in our correspondence columns will give food for thought, and thought not altogether pleasant to those who have the best interests of the gardening world at heart. As a nation, we are charged with want of enterprise in securing overseas trade. There seems a general disinclination to take the trouble properly to realise the wants even of our own kinsfolk in different parts of the Empire. The Anglo-Saxon race is often accused, unjustly as we believe, of want of imagination. After all imagination is more or less subjective and must be allowed play before it can come into effective operation. It seems probable that in the present case lack of co-ordination rather than of imagination was the cause of the trouble. It is incredible that the superintendent foreman could have realised that the plants in question were to be immured in a small, practically airtight box for many weeks, during which period they would have to cross the Line! It can hardly have been realised in the packing shed that these plants were going abroad at all. Our correspondent has in all probability written direct in scathing terms to the senders. They will doubtless wish to make all possible amends for the obvious neglect of elementary precautions, but as "A Novice" very pertinently points out, he is still without the wanted plants!

Overseas Orders. — There seems a disinclination not only among nurserymen, but among manufacturers and merchants generally, to believe that overseas orders, unless on the very largest scale, are "worth while." It is a mistaken and mischievous notion and one discreditable to the business acumen of the Britisher. The lack of commercial enterprise, to say nothing of the want of intelligence, which prevents any trader in this country from going, if necessary, to a rival to enable him to complete an export order needs no further comment. It is simple foolishness. Admittedly packing for overseas is a business apart. It should be possible for the smaller manufacturer and merchant in any trade, and for nurseryman in particular, who have not at present an experienced staff, to obtain qualified advice. Indeed, it might be worth while to inaugurate some sort of joint organisation, with special packing stations, to which consignments for export might be sent for proper packing. An organisation could make all necessary arrangements, which would, as far as possible, ensure safe arrival at destination.

Packing and Grading.—Bad packing is not solely a matter of transit overseas. It is to be feared that many firms engaged in horticultural trades have no one, either in control or on the staff, who has any distinct idea what good packing means. Instances have come under our notice within the past few months of the stacking of protection for their roots, even when careful packing had been specially asked for. We have seen herbaceous plants in growth which had been wrapped up tightly, much as described by "A Novice." They were so securely battened down that they were all but hermetically sealed, and were sent by goods train. Dire results to the unfortunate plants followed. Of the packing of fruits, flowers and vegetables sent even to Covent Garden, but more especially to provincial markets, salesmen could a tale unfold which, while it might not make the hair to stand on end "like quills upon the fretful porpentine," would be distressing enough to those who would fain think highly of their fellow countrymen's intelligence and—dare we whisper it—honesty. That well packed and graded English produce *does* reach our markets is undoubted. That it commands an enhanced price and an assured sale even in times of glut is beyond dispute. But there is a far too large residuum of which the less said the better.

A Sad Comparison.—Tomatoes from Teneriffe, for instance, are so packed as to withstand much unavoidable rough handling. They usually reach our markets in first-rate condition. Many of our own smaller growers, sad to say, appear unable or unwilling to pack the same fruit so that it shall travel safely a few score miles. Another comparison which immediately springs to mind is that between the fine Apples which reach our shores from California, British Columbia and the Antipodes and many of those from the orchards of the "Old Country." It is useless to multiply instances. Not only is it the packing and grading that are at fault. The two hang together, for it is impossible properly to pack ungraded fruit. There is, to speak plainly, a great deal of dishonest packing. The "topping" which still largely prevails in some markets—some would write "many markets"—is dishonest. More! it is unwise! It broke long ago that "eleventh commandment" which forbids getting "found out." It is to be feared that the offenders, both as regards omission and commission, are not readily approached by the printed word. To their ranks belong a large number of that interesting genus—the too busy to read. As long as there are in these islands any considerable number of people who conceal their unwillingness to receive new ideas behind a plea so specious, we shall, as a people, remain the wonder and despair of our more progressive and receptive daughter States.

On Transplanting Evergreens. — Where shrubberies are in danger of overcrowding, and in many gardens where this is not the case, it will be under contemplation to remove to more spacious or more suitable quarters evergreen shrubs of some size. These will have in all of years. The operation is one which, to command success, should be undertaken early in September or even, should we happily get good rains in the interim, at the end of August. Whatever care be taken, very considerable damage must ensue to the root action of such established shrubs, and the success attained in transplanting—equal care in removal and replanting being supposed—will be in direct proportion to the relative earliness at which it is undertaken. The only hope for such plants to re-establish themselves without grave damage rests in their wonderful ability to make new roots before the ground loses too much of its warmth. To anyone who has not previously seen it, the amount of root growth which a young Conifer will make in a single week if transplanted at the season mentioned would be a revelation. It behoves those who have specimen Conifers, Hollies, Rhododendrons or other evergreens which they purpose moving to see without delay that the sites to which they are to be removed are clear and clean, that any special compost is ready, and the necessary tackle to hand and in good working order. In the case of really large specimens it is wise heavily to root-prune the trees a twelvemonth before the actual removal.

Is it Worth While? — The question then arises as to whether a particular tree stands a good chance of surviving transplantation. It may be helpful to the inexperienced to know that large Rhododendrons and other American plants move readily, so as a rule do Hollies, if they have been properly and regularly transplanted as nursery stock. Of Conifers, Abies, Picea and Pseudotsuga usually move well. Cedars, too, usually transplant successfully, but they almost invariably cast their needles and to the casual eye look dead the following summer. Most varieties of Chamæcyparis (Cupressus Lawsoniana) move fairly well, but the forms erecta-viridis, alba spica and versicolor are difficult unless they have been regularly and recently transplanted. The true Cypresses (Cupressus), the Junipers, Tsugas, Sequoias and Pines are not worth attempting if they have largely increased in size since last transplanted. The Arbor-vitæ as a class move fairly well. Hollies, Yews, Rhododendrons and Sequoias should have first attention. They will not root in soil at all cold. This trying season will doubtless have made many converts to autumn planting, but it is to be feared that it is still not fully realised what an asset the latent heat of the soil is in successful transplantation. The old idea about leaving Hollies, Rhododendrons and different Conifers until May still persists. The only objection to the early planting of even herbaceous plants and roses lies in the damage they are likely to sustain when closely packed for transit, and this will not apply where

THE GARDENS AT NEW PLACE, HASLEMERE

"These gardens owe much of their beauty to the broad plantings of one thing in one place. . . . The motive has been to paint a series of garden pictures and the result is eminently beautiful."

IN New Place Sir Algernon and Lady Methuen have built themselves not a "lordly pleasure house," but a charming country home, of which the gardens form an integral and very important part. I say "gardens" advisedly, for there are really a series of enclosures each one complete in itself, and yet leading one to another and so forming a perfectly harmonious whole.

The house, designed by Mr. Charles Voysey, is a fine specimen of his art and stands nearly 700ft. above the sea, on the slopes of Hindhead. It is in white rough-cast with a roof of grey-green slates, and blends charmingly with the elaborate formal gardens immediately in front of it.

The gardens are built at right angles to the house on a succession of terraces facing west, all the paths being paved with stones from Old Christ's Hospital. And here the mind and heart of the owner are plainly traceable in the perfect way in which the formal gardens next to the house gradually merge into the informal and wild parts further down the slopes.

The uppermost garden, well above the house is quite formal and enclosed by a red brick wall. It has a small round pond with a lead statue, and is devoted to herbaceous plants. By a west door the bowling-green is approached. This is shut off from the tennis lawn above it by a most effective red brick arcading and fine Italian wrought-iron gates. These gates are more than two centuries old and came from the fine old house of Athelhampton in Dorset. The view of the tennis lawn enclosure through the gates and arcading is most attractive. Azara microphylla, a hardy shrub with dark, finely divided evergreen foliage, is here rightly used against the brick pillars; and on the south wall by the tennis lawn many fine plants of Romneya Coulteri are flourishing.

From the bowling-green, with its very original arbour, you descend to the grass terrace overlooking the wealth of colour in the lower gardens and with a fine, though restricted, view of the South Downs; then by more steps to the sunk garden immediately adjoining the house. This is a quadrangle with a sundial in the centre of its green sward and Junipers at the corners. On the east side is a high retaining wall clothed with many beautiful shrubs, chief of which I would mention Abutilon vitifolium, which on June 24 was in full flower and the centre of a most artistic group, of which Anchusa Opal, a double white Chinese Pæony and a pale blue Delphinium made up the component parts. The pale mauve flowers of the Abutilon against the cool grey wall and the blues and white of the other flowers made a beautiful and refreshing picture on that blazing midsummer day—one that will ever remain in my mind as a perfect bit of flower grouping. On the opposite side is a long narrow border filled with Nepeta Mussini and Anchusa Opal, both perfect in colour and form—another lovely colour scheme worth noting.

Altogether this sunk garden, so refreshingly restful in colour and design, seems just right below the windows of the house. One comes upon it also from the drive through two other old Italian gates and down a steep flight of stone steps, the sides hung with Rose Félicité et Perpétue.

Against the house many interesting shrubs find a sheltered home. Robinia hispida (the Rose Acacia) with its pink flowers trained on a light green trellis is most effective against the white wall; also Escallonia langleyensis, Escallonia Philippiana, Sophora grandiflora, Sophora tetraptera, Hydrangea scandens and a fine specimen of Fremontia californica with its beautiful yellow blossoms.

From this sunk garden you pass into the small Rose garden enclosed by walls and a battlemented Yew hedge. Here fine plants of Phlomis fruticosa are flourishing on top of the retaining wall.

From this level you descend to the rock garden, pergola, pond garden, second rock garden and Japanese garden.

In the rock gardens we have colour in plenty—masses of Saxifrages and Dianthus in variety, Heuchera, Campanula, Linum arboreum, Oxalis enneaphylla, Hypericum polyphyllum, Primula sikkimensis, P. Bulleyana and many others. Tropæolum polyphyllum I must mention; it is such a beautiful plant and not often seen, the orange-yellow flowers and glaucous foliage

FINE WROUGHT-IRON ITALIAN GATES IN A RED BRICK ARCADING.

A BOLD ARRANGEMENT OF CRIMSON AND WHITE FOXGLOVES. FLOWERS NEED NOT

reminding one of the Mandarin variety of Eschscholzia. Owing to its sprawling habit, it is eminently suited for planting at the top of a low retaining wall or where it can overhang a rock.

Meconopsis involucrata dominates a small bay. Can anyone tell me if these Himalayan Poppies are alone in their habit of opening the topmost flowers of the spike first? Involucrata and Wallichii both do it. [The genus Liatris also has this peculiarity.—ED.]

A very fine blue Peach-leaved Campanula, Barr's Telham Beauty, is very attractive. It is far and away the finest development of the species so far met with—the flowers so large and of such good texture.

In the water garden the Nymphæas claim first attention, beautiful groups of crimson, primrose, white and white suffused on the outer petals with pink, floating on the water like so many jewels.

Round about, Ramondias, Orchises and many other choice plants revel in congenial surroundings, and for shrubs there are Kalmias, Citrus trifoliata, Cæsalpinia japonica, Indigofera, various Magnolias, Rosa polyantha simplex (delightfully fragrant), and masses of Olearia Gunni and Ozothamnus rosmarinifolius. The last named is a beautiful shrub covered with minute white flowers, each one like a microscopic Anemone-centred Pyrethrum.

A grass walk from the water garden leads past several bushes of this Ozothamnus to a large crescent-shaped bed of crimson and white Foxgloves, most effectively interplanted with Pæonies.

Another long grass walk dividing the lower rock garden leads by a bridge over a pond to the Japanese garden. At the bottom near a large Japanese lantern are the remains of what was a magnificent bed of Primula japonica, and the path leads upwards past several small ponds to a Japanese temple. Every plant in this garden is of Japanese origin.

From here onwards we are among beautiful groups of Silver Birches which clothe the grassy slopes leading down to the bottom of the Combe.

These gardens owe much of their beauty to the broad plantings of one thing in one place—as, for example, great beds of Viburnum plicatum, the Foxglove bed—the masses of Ozothamnus rosmarinifolius carrying on the white effect from groups of Olearia Gunni. There are no little scraps of anything: always the motive has been not so much to find a home for rare and interesting plants as to paint a series of garden pictures, and the result is eminently beautiful and satisfactory.

Garden lovers owe a debt of gratitude to Sir Algernon and Lady Methuen for opening the beautiful grounds of New Place to the public on Sunday afternoons in May and June, as they have done for several years past. One comes away refreshed both in mind and body, more than ever sure that "gardening is the purest of human pleasures." Would that many others with similar advantages would follow their public-spirited example.

W. DUGGAN.

NEW PLACE, THE ROCK AND WATER GARDEN.

ALPINE PLANTS AT HOME

An Amateur Abroad

SINCE taking an interest in "alpines" and their "ups and downs" in a small garden on the outskirts of a large manufacturing town created a desire to see the plants as far as possible in their native haunts, visits have been made during the past three or four years to a part of North-West Yorkshire famous for its alpine plants; that is the few that have maintained a footing in this country, including such plants as the lovely Gentiana verna associated with Primula farinosa, also Bartsia alpina, Polygonum viviparum, Habenaria albida, Antennaria dioica, Saxifraga aizoides, S. stellaris (at a higher level), Sedum villosum, with Dryas octopetala and Helianthemum canum on the "sugar" limestone formation at a higher level, Arctostaphylos Uva-ursi and Vaccinium Vitis-idæa. The pastures are beautiful in the early summer with Geranium sylvaticum, G. pratense, Marsh Marigold and Trollius in the damper parts, Saxifraga granulata and, if a favourable season, a great variety of lovely Orchids.

Owing to the conditions prevailing in Europe during recent years it has not been possible or desirable to go further afield and even now one cannot travel with the same comfort or freedom as in pre-war time. However, although I had almost given up the idea of visiting the habitats of some of the more interesting alpines in 1920, a hint from a friend who had been in Switzerland earlier in the summer to the effect that the Swiss resorts were not likely to be overcrowded during August, as is usual at that period in normal times, determined me to venture into the more accessible parts of the higher Swiss Alps that were likely to be favourable for my purpose, and after a few precious days lost in obtaining the now necessary passports and visas for the visit, I got through to Zermatt in the middle of August, which, although late or past the period of the great show of alpine flowers, especially in the meadows and pastures at the lower altitudes, it was better in some respects, as one had an opportunity of seeing some of the rarer later-flowering plants, while at the same time most of the earlier-flowering species were to be seen, but not in such profusion as earlier, at the higher pasture levels close up to the glaciers. It was also a favourable time for obtaining seeds of many of the more interesting plants.

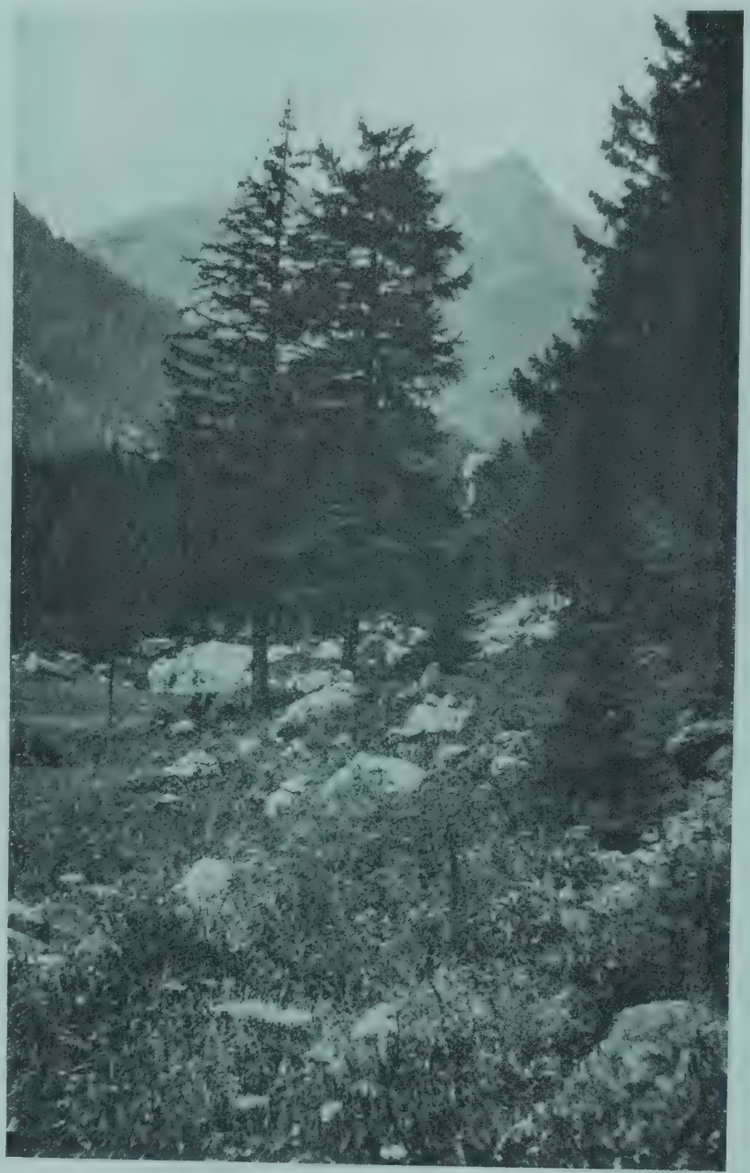
Zermatt was the first district visited and the truly magnificent mountains surrounding that centre, dominated by the majestic Matterhorn made an impression not likely to be forgotten, the ever changing views of the snow-capped mountains, with their dominant peaks, the very perceptible freshness of the air which seemed to infuse such life into one that you could not help mounting up to the higher parts, in fact, it was wonderful what could be done in the way of walking and climbing (not climbing in the expert sense) by one not at all used to it.

A saunter out on the first morning after arrival [illegible] August 11] proved most interesting. What was

intended as a short walk before luncheon develcped into a full day's outing and landed me up on the outskirts of the Findelen Glacier some 9,oooft. up, and with the lovely scenery and most interesting flora proved to be probably the most enjoyable day of the visit, notwithstanding that it rained heavily in the afternoon and that I was soaked through before arriving back at my quarters.

The path from Zermatt passed through delightfully green irrigated meadows beautiful with the flowers of the Autumn Crocus (Colchicum), which was just nicely out. It seemed to be pretty general in suitable meadows at 5,oooft. to 6,oooft. White-flowering specimens were noticed both here and in other parts of Canton Valais visited.

Along the sides of the glacier torrent (The Viege) were huge masses of that ubiquitous and picturesque weed, the large Willow Herb (Epilobium angustifolium), recognised by some American ladies as the Flame Weed of the States. After crossing the bridge over the Viege the track taken zigzagged up through Pine woods in which the so-called Alpine Rose, Rhododendron ferrugineum, was plentiful, although out of flower. Junipers, including Juniperus Sabina and occasionally Daphne Mezereum were noted among the undergrowth. The dwarf and pretty Epilobium Fleischeri first noticed here, but later seen in plenty in some of the higher torrent beds, provided fine colour masses and took the place of E. angustifolium at the higher altitudes. It is a very similar plant to, if not the same, as E. Dodonæi, which I have in the garden, and is well worth a place as a late-flowering plant. As one got higher and the Pines became dwarfer, eventually giving out altogether, Sempervivum arachnoideum with its varying sized heavy rosettes and bright red flowers was in plenty, often growing on rock faces out of a compost of collected Fir needles which enabled the plant to obtain a necessary footing; also Sempervivum montanum and Sedums, such as S. villosum, S. grandiflorum, S. brevifolium, the latter on wolds about 6,oooft. up. Some small plots of stunted Corn were noticed, very thin, and said to be the highest cornfields in Europe. Plots of Potatoes were also seen and higher still, at Findelon, in a small garden plot, Broad Beans. It was also interesting to notice such weeds as Nettles, Dandelion and Chicken Weed growing up here as profusely as such weeds are inclined to do in our own gardens at home. On the open sun-baked banks the always beautiful Pinks, Dianthus sylvestris, of more open growth, longer stemmed and larger flowers at the lower level, while at the higher level it became more compact—at its highest level being hard and dense with almost stemless flowers. (Seeds of this Dianthus and the following species were taken both here and later in other districts visited. After collecting a number of the seed-heads I noticed that many of the "pods" were empty, the seeds having been eaten out by a moth caterpillar which I found at work on one or two occasions later.) Dianthus Carthusianorum was also plentiful with its deep red Sweet William like flowers, which in some instances at the lower levels had long stems such as are usually known as Dianthus atro-rubens with clustered flower-heads. At the higher levels the flowers were frequently single and often almost stemless. Gypsophila repens rosea ably assisted in making the dry sunny banks more beautiful. Well above the forest level the path traversed the pastures in which Anemone alpina had apparently flowered very freely earlier in the summer, as was evident by the large number of "fluffy" seed-heads that added interest to the steep pastures. Higher up, between 8,oooft. and 9,oooft., in places shaded from the sun probably for the greater part of the day, dwarf plants of Anemone sulphurea were in flower, along with Geum montanum and some lovely dwarf Anemone vernalis. What an exquisite flower this would be for the moraine if it would only maintain its miniature form instead of developing at the necessarily low levels of our gardens into larger and much less dainty plants. Saxifraga Aizoon crustata was fairly frequent, but only a very small patch of Saxifraga cæsia, and that the only plant observed while at Zermatt, although several were seen in a restricted locality in the Saas Valley tightly wedged into very small cracks in some large boulders and mostly on the underside. What a dainty plant Veronica saxatilis of the Alps is! Some dwarf, closely packed, bright blue-flowered plants almost led me to think they might be the Eritrichium, which at that time I had never seen, but later experience put me right as to this, Eritrichium nanum, of which I had the pleasure of seeing a little of in another district, being a very different plant, more like a dwarf cushion Forget-me-not. Of Aster alpinus, with dwarf glorious dark blue flowers, I was under the impression that I had a good form in my garden, but am afraid the flowers seen in the Alps made me wish that I could substitute them. A considerable quantity of seed was collected with hopes of raising similar plants, but I am just afraid that it is the altitude and environment that are requisite, as it is with many of the species, to achieve the same result. One of the larger Phyteumas was noticed in the lower meadows, and in the higher pastures right up to 8,oooft. or so what appeared to be Phyteuma hemisphericum was fairly abundant, with its peculiar and not unpleasing blue flower-heads. A bulbous plant with yellow star-like flowers, Gagea Liotardi was a striking contrast to the numerous blue flowering plants that seem to dominate some of the higher parts. Silene acaulis was in considerable abundance in places, the plants being hard and very compact. At the lower levels it was in seed and high up flowering, but not very freely. It was abundant in many localities visited. Very rarely was it seen well covered with its pretty rosy pink flowers, flowering plants usually only having a few flower-heads, and much the larger proportion of them had never flowered. Plants in a dry position with their roots tucked in by the side of a good-sized stone, and a good part of the plant growing over its surface, seemed to flower the most freely. I have tried the plant in various positions in my garden with a view to making it flower more freely, but with very little success, and from observations made in its natural habitat it does not seem likely to prove satisfactory as a flowering plant in our moraines. Another noticeable feature is that the plants lose their compactness at the lower levels. This is the way with other close-growing alpines, such as Androsaces, &c., and has no doubt a good deal to do with the "miffing" off, as frequently happens with plants from the highest levels. An odd plant or two of Soldanella alpina in flower up near the snow level, and in a boggy basin with raised green tussocks dotted about, Gentiana verna was in flower in a not dissimilar position to what it is occasionally to be seen in Upper Teesdale, where it, however, lacks the snow-capped mountain environment. Along with it was also Bartsia alpina and Polygonum viviparum, both plants that grow in the same locality in this country. In this vicinity, which was over 8,oooft. up, two varieties of Androsace were noted in flower, A. carnea and a white flowering one, probably A. obtusifolia.



THE ALPINE MEADOW WHERE GENTIANS GROW AT LAKE CHAMPEX.

It is interesting to have read since my return Judge Wills' book on his "Wanderings in the Alps" in the fifties of last century under very different conditions as to comfort, but notwithstanding the much easier accessibility now and the very greatly increased number of visitors, it is satisfactory to notice that the flowers seem to be much the same as in his day, and to find some of the plants mentioned by him in flower

in the exact locality indicated in his book. The only flowering plants of Lychnis alpina seen were on the "Riffelberg," which is the Zermatt locality given in his book. Some lovely cushions of Androsace glacialis were in flower on the way up from the Riffelberg to the Gornergrat. T. A. L.

THE BORDER CARNATION

Seasonable Hints and Comments on the Culture of an Unexacting and Accommodating Plant.

IN this year of grace, or drought—the point of view depending on your altruism or your common-sense—our gardens and all our spring-made garden plans have been put to a test more severe than any I remember. Even the torrid summer of 1911 was relieved at intervals with thunder rain, a luxury denied to all but a few favoured spots in this sun-parched season. Mention of the spring planning of one's garden brings to mind a friend who decided last February to devote several beds on his lawn to Border Carnations in place of his former practice of bedding out Begonias and foliage plants. Surely the fates looked with a favouring eye on this scheme, for to grow Begonias well in such a summer as this and yet to be faithful to the interests of one's fellow creatures by saving the depleted water supply was well-nigh impossible. But the Carnations have been a bountiful success in spite of the fact that not a drop of water, save what the grudging skies have sent, has been given to help them along; indeed, since the plants were put out they have only had one really good drenching with rain. In another instance I know of a large bed, holding 900 Border Carnations in about twenty-five different varieties, planted towards the end of April, which has given thousands of glorious blooms though it has hardly rained at all while growth was being made. In this case the soil was heavy and the bed raised about 4ins. above the surrounding level. Surely, then, the Border Carnation is one of the safest and most satisfactory of plants for all kinds of summer weather. They grow and blossom exceptionally well in the North, even throughout Scotland, where the prevailing conditions are considerably moister than in the South; and they will do equally well in a hot dry season like the present or that of ten years ago; and yet, with success so easily gained, a widely prevalent idea exists that Border Carnations are only good under the care of experts. Why such a notion should take root it is hard to imagine, for few flowers will come so true to their characteristics in almost any kind of soil to be found in Britain.

A few general hints may be given for garden culture which will help amateurs planting for the first time. To begin with, a station in the garden must be prepared in advance, so that the plants may be put in position at once on arrival in October, which is as good a time as any for planting in the open. If the soil is very light and poor some good farmyard manure, well decayed, should be dug in, with a few handfuls of bone meal to each square yard. Heavy land, especially if it is in good heart, will need very little additional fertilising material; old horse manure with plenty of litter will, however, tend to keep the soil open and improve the drainage. At planting time it is safe to add ground lime or powdered chalk to any grade of soil, as the Carnation loves a calcareous medium to root in. Lime also causes beneficial reactions in the soil which are all to the advantage of plant life. The next important step is to procure a supply of rooted layers from a clean, healthy stock, which on arrival must be planted *firmly* about 15ins. to 18ins. from each other to allow space for layering the following summer. Very little further attention will be called for till staking time in April or early May, but now and again the hoe should be run through the soil to keep the surface loose and keep down weeds.

I have just taken a walk round the Carnation beds and houses to make a note of any outstanding varieties, hoping these random jottings may help would-be growers to make a selection. I find that, generally speaking, the best flowers outside are also the best in the houses; even the delicate looking yellow ground Picotees are just about as perfect in the border as on the staging. Of the new varieties I like Bookham Rose with its fine colour and large shell-like petals; not too many of them, but well disposed. Eldorado is a new yellow self of fine substance and petal rich in colour and altogether one of the best yellows ever raised. It comes from the garden of Mr. Murray of Worcester Park, the birthplace of that wonderful white ground fancy, Mrs. G. D. Murray. The same grower has also produced Lady Shackleton, a counterpart in colour to Lieutenant Shackleton, but instead of being a poor weakly grower it has the constitution of an ox and should be a highly popular variety. Also produced by Mr. Murray is a pale yellow ground fancy, Kathie Moore, which has proved a very great favourite here during the flowering season. It is a sweetly coloured bloom, rather intensely marked and suffused with rose pink, and perfectly shaped, endowed, too, with a sweet perfume. Prospero is a fine white ground fancy, not far removed from Montrose in colour, but the scarlet markings are differently disposed, giving the flower a prettier appearance. J. Saville, that wonderfully and weirdly coloured beauty, has retained its fascination for all who see it. Its apricot ground is heavily marked lavender, blood red and pink, and the flower always comes most perfectly shaped. Saracen is another fancy of remarkable appearance. Lavender ground striped and splashed with rose and maroon, it is *outré* enough to satisfy all who like daring colour schemes. Among the older sorts Linkman remains one of the best Carnations for all purposes, and Edenside is another veteran of sterling quality. Reverting to selfs, Gordon Douglas in crimson and E. K. Wakeford in maroon are the best, though Mrs. George Marshall will give an occasional bloom of great excellence. Its tall habit of growth, however, spoils it as a border plant. In whites Bookham White and Elaine are the best for outdoors, while in the popular buff and orange shades Effie Deans, Dr. Raymond Crawfurd and Loyalty are purest in tone. Salmonea holds its place in salmon pinks, but room must be found also for Salmon Clove; while Annie Laurie is a fine dwarf pink for the border. The grey Douglas is easily the best lavender grey self, and for a bright scarlet I should choose Grenadier.

Why the yellow ground Picotees are not more grown by amateurs is difficult to understand. To-day we had a dining table centre of Margaret Lennox and its beauty was very persuasive. All the yellow Picotees are quite hardy and do well in the border, while for buttonholes or house decoration they are unsurpassed. J. L. Gibson.

A Valuable Annual for Greenhouse Decoration

The Clarkia, one of the most improved of hardy annuals, should be more grown for decoration indoors. Seed should now be obtained where good plants are desired for next season.

ONE of the finest of annuals when well grown, Clarkia elegans is especially valuable for culture in pots. In its accommodating manners it is perhaps a point or two in front of even the popular Schizanthus. The best results in pots are obtained by sowing in September. The plant delights in having a long cool season in which to develop, such as the ensuing months afford, also by sowing then flowers are produced at a very useful time. Sow the seed in 60-size pots, securing some three plants in each. Thoroughly water the earth before placing the seed on and then cover with fine soil. Place the pots outdoors in a shady position until germination takes place, when they should be removed to a sunny spot. Remove any weeds that grow and water as occasion requires. If large specimens are desired, the three plants in each pot can be allowed to grow on as they are. Reduced to two, or even one, a handsome plant will result. Before the frost affects them they should be placed near the glass in the cooler greenhouse or pit and should be thus accommodated for the winter. Do not subject them to heat at all. A shelf in a fruit house, resting, provides an excellent position for them. Here they grow slowly and keep very sturdy. Water carefully; not much will be required. To overdo the water is to cause damping. Soon after the turn of the year they should be shifted to 5in. pots, using a compost of sandy loam and one-third leaf-mould, with a dash of old mortar broken up. Pot moderately firmly and do not water them until it becomes absolutely necessary. Keep them as near the glass as possible so that any growth made may be short-jointed and sturdy. In the course of a few weeks the pots will become well filled with roots, and they should be given a further shift, this time into 7in. or 8in. pots. Very handsome bushy plants will result from the larger size of pot. It may be necessary to give some support to the advancing growths. They should not be allowed to bend over. For this, the final potting, the compost should be of a more rich and feeding nature. It should contain a proportion of cow manure in place of some of the leaf-mould; this with a dash of sand and the old mortar make a delightful rooting medium. Pot rather more firmly and water with discretion.

Immediately the plants are sufficiently tall place a slender stake to each, of such height that when the plant is full grown the stake will not be visible above the flowers. As growth proceeds tie at intervals to keep the slender shoots upright. If attended to at the proper time, only the main stem need be tied—a great gain in appearance when the plants are in bloom.

As the plants advance to the flowering stage the sun will be rapidly increasing in power. Much more water will then be required. Clarkias must at this stage never know the want of it. They should also be sprayed overhead on the mornings of bright days and again in the afternoon. If this treatment be persisted with green fly will trouble them little or not at all. Spraying must cease as the flowers open. During the later stages when the pots are well filled with roots begin with occasional watering of manure

or soot water, increasing these in frequency until they entirely replace clear water.

Plants of Clarkia grown in this way develop into very handsome specimens and are exceedingly decorative either indoors or in the conservatory. They are very dainty in the cut state, and very pretty table decorations can be effected with them. Their long, arching stems make them most effective for this purpose. Undoubtedly varieties of the elegans type are the best suited for pot culture. The double forms of this are very beautiful, but the single ones surpass them in grace when used for cut flowers. Elegans Double Pink and Salmon Scarlet, with elegans Delicate Pink and Scarlet Beauty are all very fine and worthy.

E. J. PLATT.

LARGE-FLOWERING PANSIES

How to secure in early spring the beautifully coloured large blossoms so much admired.

MUCH has been written concerning the culture of Pansies, but this has been mainly concerned with spring sowing and summer and autumn flowering. A few observations should now be pertinent upon summer and autumn sowing and early spring flowering, which last desirable occurrence may readily be extended into summer and autumn if the plants are well grown and the flowers cut regularly and often.

There is greater merit in producing Pansy plants that flower in early spring than those that bloom at any other time. The blossoms are always larger, for they obtain the benefit of the moist soil and moderate spring sunshine, whereas the later blossoms may have to endure drought and scorching sunshine, neither of which suits the Pansy.

Let it be understood that *large* flowers are under consideration. Pansies will, of course, grow almost anywhere, but large blooms can only be produced with good culture, a suitable site, a rich soil and a sufficiency of moisture. *Good* Pansies will not tolerate extremes of either heat or moisture, or the lack of them.

The first essential is a good seed-bed, and nothing would be better than the ground from which early Potatoes or Peas have been removed. This, dug over, levelled and raked finely, forms an ideal place wherein to sow Pansy seed. The incorporation of leafy or fibrous substances with the surface soil is very desirable, as this keeps the soil porous while allowing it to be made quite firm, and it also affords a nutritious roothold of which Pansies are not slow to take advantage, for there are always some of these leaves attached to the roots when the plants are lifted for transplanting.

No particular time for sowing need be considered if it is done before August departs. Good seed is rather the next consideration. Well known strains should be used, especially those of English and French growers noted for their concentration upon the large flower. These seeds are usually of a mixed nature, for the Pansy produces such a variety of colour shapes and markings, and each colour combination is so interesting that its absence represents a real loss. Of course, there are self colours—in white, yellow, blue, purple, red, black; and there are some strains that produce one prominent colour in various shades. Such are the wine-stained, the blood-red Victoria, the terra-cotta Meteor, the silver and gold-margined and the bronze Pansies. These, with a mixture of blue shades, could be obtained and added to any other good mixture of blotched, veined or self-coloured flowers, until one has *every* colour among one's collection, with every conceivable colour marking upon the flowers. I doubt whether any other flower could show such an extensive colour gradation.

Early thinning must take place when the seedlings are large enough; delay will spoil all chances of good growth. Each plant should be given at least a square foot of soil to itself at the earliest moment, for Pansies make a very large ball of roots. The thinnings, of course, will be transplanted into rich, firm soil elsewhere. Throw nothing away, for may they not contain the very best types? Give *every* plant the opportunity to flower if room can be found for them. Many of them will flower in the seed-bed; indeed, in mild weather, if the plants have been encouraged to forge ahead, there will be flowers ready to cut at Christmas! If some of the seedlings are potted up, too, and taken into the greenhouse, they will flower earlier still, especially under the influence of a little warmth and a light position near the glass.

When planted in beds or borders in the early spring, care should be taken to lift the plants with a good ball of earth, so that they receive no check. If planted well, flowers will soon make their appearance, for the plants will be full of buds.

A moist, retentive soil in an open position should be chosen. Pansies are sunshine lovers. Evidence of that will be found in the fact that the flowers will always be facing the quarter from which the sun shines most; therefore a sunny site is an advantage if adequate moisture can be guaranteed. But a sun-dried position is certainly detrimental, and a very wet soil will cause the plants to die away.

Cuttings may be taken from any particular colour that may appeal to the grower as worth perpetuating, for seeds, of course, give no guarantee in this respect. Plants from seeds, however, undoubtedly yield the largest flowers. H. A. DAY.

IN LOW BOWLS, PANSIES ARE CHARMING FOR INDOOR DECORATION.

ANNUALS: A RETROSPECT

One usually writes of good things to come and how to obtain them. It is sometimes useful to tell people what one has seen others do and what one has done oneself

PAST experience has a direct effect on future action. In one of the early spring numbers attention was drawn to the value of annuals in the flower garden. Their value has been demonstrated even in this difficult season.

Some Results.—Although always a lover and cultivator of these flowers, I confess to being influenced by the article referred to, and grew more this year. I am glad I did so, and am sure thousands of others would say the same.

Having resolved to grow more annuals, I determined to adopt a better method than formerly. The bulk of the varieties of each kind were grown in masses and not in mixed colours. Not only was a bold display obtained, but it rendered it easier to determine the general effect and good qualities of each as a guide for the future. The great beauty of these flowers makes one long for a larger field in which to grow them all.

The following have, however, proved some of the gems in this hot, trying season: For general usefulness Sweet Peas head the list. The Cornflowers have proved their worth as flowering plants in both dry, poor and moist and rich soils. Mignonette must not be left out, nor Poppies; the double-flowered Shirley has provided a wide range of colours, as also have the giant doubles and singles. The annual Larkspurs almost rival their perennial brothers. Annual Chrysanthemums and Coreopsis have been splendid, also the lovely Statice Suworowi; it is indeed a gem for the border. Lavatera Loveliness and L. alba splendens grew about half the height they would in a normal

season, but this did not seem to affect the wealth of charming flowers. Godetia (double rose), Clarkia elegans and Gypsophila elegans are charming. Although Stocks and Asters have required very close attention in the matter of soil preparation and after-care, the plants are, as usual, worth their place in the garden and in the hearts of cultivators. Now we have the Marigolds in variety coming into bloom, and to me their yellow and dark brown flowers are always associated with the early autumn foliage tints in bush and tree. There are numbers of other kinds deserving of mention, but those given must suffice.

If a judicious selection of annuals be made for the border there need be no considerable blank throughout the season. To fill gaps Antirrhinums grown as reserve plants in boxes and pots in partial shade are splendid. George Garner.

NEW AND RARE PLANTS

THERE was a very interesting collection of uncommon plants before the Floral Committee of the Royal Horticultural Society on July 26, though only one of them received an award of merit.

Lilium philippinense var. formosanum.—This is really just an alpine form of L. philippinense, but it is a beautiful flower. Originally collected by Mr. R. W. Price in Formosa, seeds sown in a cold frame during April of last year produced the flowers now shown. The trumpets open widely and, being rather small in the tube, have a graceful effect. The pure white is relieved by a greenish throat and by bands of dull crimson along the centres of the outsides of the perianth segments. The stems are slender, and the narrow leaves are relatively small. It is quite hardy in the Edinburgh Botanic Gardens, where plants produce seed in the open. This bids fair to be a valuable garden Lily. Award of merit to Messrs. R. Wallace and Co.

Scolopendrium undulatum cristatum.—The charm of this Hart's Tongue Fern lies in the unusually regular waving of the deep green fronds and its daintiness. Shown by Mr. R. Bolton.

Scolopendrium undulatum muricatum.—This is a companion to the foregoing and differs chiefly in that the fronds are a trifle wider and terminate in a cock's comb-like crestation

Tamarix odessana—The abundant, slender pale pink racemes of this Tamarix were very attractive. Shown by Messrs J. Cheal and Son.

Pentstemon cordifolius. A neat growing, half hardy shrubby plant which this year has produced good shoots of elegant scarlet flowers.

Lobelia laxiflora.—This is a greenhouse perennial which succeeds outdoors during the summer. It is a native of Mexico and bears red, downy tubular flowers. Probably hardy in the south-west, this is an interesting rather than beautiful plant. Both shown by Miss Willmott

Polygonum Aubertii.—It is claimed that this rampant climber is even more vigorous than the well known P. Baldschuanicum. As shown, the greenish white inflorescence compared unfavourably with those of P. Baldschuanicum. Exhibited by Messrs. J. Cheal and Son.

Anthurium Rothschildianum splendens—The very large spathes of this glorified A. scherzerianum are very evenly speckled with white and have a most uncommon appearance. Shown by Messrs. Sander and Sons.

Carnation Kelso.—A quite unique fancy Border Carnation. It is of particularly good form, the ground is buff apricot, and the petals freely splashed with heliotrope. First-class certificate of the National Carnation Society to Mr. James Douglas.

Crinum Yemense.—This is quite the best of the white Crinums that are hardy in the south and west. The flowers are of good form, pure colour and have a pleasing fragrance. Mr. H. J Elwes told us it is quite hardy at Colesborne, where it seeds; and we also remember seeing this species seeding at Exeter on a border outside a greenhouse. Shown by Mr. H. J. Elwes.

THE CHARMING NEW HARDY LILY, LILIUM PHILIPPINENSE VAR. FORMOSANUM

SEEDLING ROSE SHOW.

The extra show which the National Rose Society arranged for July 28 was an admirable conception, but the season has been so unfortunate that the realisation of their hopes of showing which of the new Roses introduced into commerce since January 1, 1914, were "living" and of garden value were doomed to disappointment by the unparalleled weather; but it is to be hoped that the Society will not be discouraged.

Of new Roses proper, none received any award, but Coral Cluster, for which Mr. R. Murrell had a certificate of merit at last year's autumn show, deservedly received a gold medal. The clusters of this dainty Polyantha were on the present occasion of a brighter coral pink colour. Little Pet, shown by Messrs. J. Cheal and Son, is a paler Coral Cluster which has rather more petals and is stiffer in habit. Mr. W. R. Chaplin showed Waltham Flame, a Hybrid Tea Rose with which the season has probably dealt hardly, for as shown it is but little more than a semi-double Rose. The colour is coppery salmon and the unopened buds are nicely flushed with cerise-crimson.

In the classes for baskets of Roses were two new American Roses, Mme. Butterfly and Mrs. F. Dreer, which are likely Roses for the future. Mme. Butterfly is a sport from Ophelia and is identical in form. Its colour is shell pink in the centre, with a golden base. It was also to be seen in an attractive dinner-table decoration by Miss Ethel James. Mrs. F. Dreer is a Hybrid Tea which opened widely, disclosing a golden yellow centre which is prettily suffused with pale purple. It was shown by Mr. W. Easlea. Mrs. Hy. Bowles, which was one of the new Roses at Regent's Park, was particularly attractive in the table decoration by Mrs. Courtney Page, where its association with the foliage of Rosa rubra gave a misty, cool effect which was particularly successful.

WINTER SPINACH

Why is not Spinach for use in winter far more extensively grown in our gardens? The valuable salts it contains are particularly necessary at this season.

WE must have green food in the winter to maintain the purity of the blood upon which good health depends. As a solid basis of excellent material we have the hardy members of the Cabbage family, and they never wholly fail. It is, however, necessary to look beyond these to the Spinach and Seakale Beetroots and true Spinach, and the last named is infinitely the best. When well cooked and served it is delicious in a dozen ways, and no other green vegetable can approach within measurable distance of it in its beneficial influence on the blood. Spinach should be a regular vegetable dish in every household, and the gardeners who do not know how to grow it (if there are any), and the cooks who do not, or will not, know how to prepare and serve it (and there are many), should be compelled to learn.

There are no mysteries connected with the production of plentiful supplies of Spinach in the winter, but there are little points which must be scrupulously observed by the grower who aspires to achieve the best. He must consider soil preparation, variety, [illegible] and distances

between and in the lines, since all these bear directly on the results.

A poverty stricken, shallow soil will not grow Spinach with thick, fleshy, deep green leaves; indeed, it will not grow the plant at all. The site must be deeply cultivated, and there must be a readily available supply of nourishment, provided, preferably, in the form of rotted manure in reasonable quantity in accordance with the fertility of the soil. Discretion must be exercised in this direction, because a very rich medium, more particularly when manure on the fresh side is utilised, may induce a soft type of growth which will be highly susceptible to injury in the winter. The position for all sowings, except, perhaps, a very late one in October, should be quite in the open.

The question of variety is not difficult to solve, since all the great seed merchants have at least one special strain which they can reliably recommend. All these have thick leaves of intense colour, provided, of course, that the plants are treated rationally. Many years ago it was considered that the smooth or round seeded was the more suitable for summer and that the rough or prickly seeded should be chosen for winter use because it was the hardier. As a matter of fact there is no difference between them in this respect, and neither is largely grown in gardens nowadays because the superiority of more recently introduced varieties is fully recognised.

Turning now to seed sowing, we must speak of successions and of distances, as both are of the utmost importance. The soil must be firm, to encourage germination and subsequent sturdy progress. Sowings should be made at the middle and end of August and at similar periods of September in, as has already been said, an open situation. An October sowing will or will not be made according to circumstances, and where it is decided upon it ought to be on a warm border, unless previous experience in the garden has proved that there is safety in the open quarters. Four sowings should be regarded as imperative, as there is probably no vegetable grown in our gardens which is so markedly influenced for good or ill by the weather. Too much importance cannot be attached to the distances between and in the rows, because it is only those plants which have had every possible encouragement from the seedling stage forwards that will be hardy and fully productive. In ordinarily fertile soils the rows must be 15ins. asunder, and as the plants must stand 12ins. or, better, 15ins. apart in them when singled out, the seeds should be dropped in clusters of three or four, because continuous sowing is extravagant of seeds as well as of labour in thinning.

W. H. LODGE.

Salvage Operations in the Vegetable Garden

Repairing the Ravages of the Drought.

WHEN the prolonged heat and drought breaks there must be a dearth of vegetables for the coming autumn, winter and spring. Much may be done to mitigate this state of affairs if preparations are made at once. The fact that many crops are maturing much earlier than usual must not be overlooked. This gives us the vacant ground for these salvage operations, and the best use should be made of it. When rain comes the growth of all plants will be phenomenal, the ground being unusually warm It needs but the requisite amount of moisture to fall and growth will of necessity be very rapid. Care must be exercised to sow only such varieties as are known to be quick in maturing. They will then make quite an appreciable addition to shortened supplies.

One of the crops, sown now, most likely to give good returns is the Carrot. They certainly do make a delicious dish, even should they only attain a small size. Generally speaking, however, if they are left in the ground till late, and they may remain all winter, they make very good roots. Either Early Gem or Inimitable Forcing will give good results, and a good breadth should be sown thinly, so that no check may be caused by undue thinning. Sow in shallow drills 9ins. apart and aim at getting a root about every 1½ins. along the row.

A liberal sowing of Turnips should be made, as they will in all probability give as good a return as anything. Choose the variety Six Weeks or Snowball. Some Golden Ball may also be sown for use later on. Sow in drills 15ins. apart and so as to ensure a Turnip every 9ins. or so along the row. The later ones may have rather more room allowed in the row.

Beetroots resulting from the main sowing will in most cases be decidedly on the small side. A sowing of the Globe or Turnip-rooted made now will afford quite nice roots. They can be left in the ground very late to enable them to develop. Make the drills 12ins. apart and about 2ins. in depth; aim at a plant every 6ins. or so.

A sowing of Victoria round Spinach will give extra good results, as also will sowings made later. Drop the seed thinly into 1in. deep drills about 12ins. apart.

Spinach Beet is a most useful food plant for the purpose under consideration. Sown now it will give many useful gatherings long after some of the foregoing are used up. Sow about 2ins. deep in drills drawn not less than 12ins. apart.

If pains are taken and a portion of border in a sunny position well prepared with a good dressing of manure, Cabbage of the Harbinger or Earliest of All type and Cauliflower of the Early Forcing type may be sown with excellent results.

As must be the case with all the kinds mentioned, they must be sown where they are to mature, that is, they must not be transplanted. Perhaps the best plan is to drop two or three seeds at 12ins. apart each way into a slight depression and fill in with soil. When well up, at once thin to one plant, the strongest, in each position.

A few Lettuce should also be put in. Early Paris, Market or Golden Queen varieties of Cabbage Lettuce are first-rate. Drop two or three seeds about 6ins. apart in drills 9ins. asunder and thin to the strongest plant. The thinnings can be pricked out in a frame from which frost is excluded.

Onions should also be tried where, as in many cases, the main crop is light. The seed will germinate much quicker now than it does in the colder ground of early spring. It is necessary to select a fast-growing variety, and perhaps Silver Queen would be best. If the bulbs do not attain much size they are extremely useful for drawing for use as young Onions, especially for salad.

Parsley is in demand the whole year, and should be included in these sowings. Sow the seed in drills 12ins. apart. The thinnings can be pricked out in a frame and accorded protection in cases where Parsley cannot be depended upon to survive in the open.

As the various plots come vacant by the removal of early crops the soil needs little preparation for most of the vegetables mentioned. Sometimes a forking only is necessary, but the earth should be made fine so that it may lie closely about the seed. A fine tilth is an absolute necessity.

The main factor in the success of crops sown now is not to disturb the roots at all by transplanting or otherwise, but to encourage them to grow as rapidly as possible. Thin early and carefully, and run the hoe frequently between the rows. All will derive great benefit from a dressing of soot. If a little is dug into the ground with some wood ashes when the ground is being prepared, growth will be the more rapid.

J. P.

CORRESPONDENCE

A NEW ZEALANDER'S LAMENT.

FOR some considerable time, at least during the last five years, we have noticed from time to time various shrubs illustrated in THE GARDEN and plants that have been specially recommended. Being ardent collectors and anxious to secure anything rare in the way of shrubs, in the past we have endeavoured to work up a satisfactory arrangement with some nurserymen in England, but we regret to say without much success. Residing, as we do, in a young Dominion, you will think it ill behoves us to criticise the methods of English firms, but without being too critical and with a due sense of what we write, we would like, for the sake of your readers and for the benefit of your nurserymen, and as information for the general public, to relate some of our experiences. Eight years ago we placed orders with firms such as Messrs. Barr and Sons, Cartwright and Goodwin, Robert Sydenham and Christopher Bourne for bulbs, and in every instance these were packed and despatched from England with every care and attention, and out of some hundreds we have imported they have invariably arrived in the best of condition. Being anxious to introduce new varieties of shrubs, such as Azaleas, Rhododendrons, and the rarer shrubs and herbaceous plants, some five years ago we entrusted an order with two of your large nurserymen and asked that they pack, crate and forward us under the very best conditions the plants required, and we found out of the plants ordered, these particular nurserymen only executed a portion of our order, evidently the plants they had growing, not taking the trouble to collect (for which, by the way, we were willing to pay) from other nurserymen the plants that they were deficient in. Further, when the plants were packed and shipped it was without any due consideration as to their safe arrival. It appears to us that English nurserymen are anxious to advertise and sell their plants, and immediately after receiving their orders they feel there is no further obligation on their part to see that their customers receive satisfaction. Contrast this treatment with the treatment we receive from Holland, France and America, where after accepting our orders our sellers advise us that they are executing, and though they are short of some of the plants ordered, they are securing these from other sources, charging us for same and shipping the plants specially crated (for which, by the way, we pay from 5s. to 25s. per crate) and shipped under the care of the officer of the steamer, and invariably these plants arrive in our market in the pink of condition.

We have just received intimation from a large firm in England (and we had placed with these

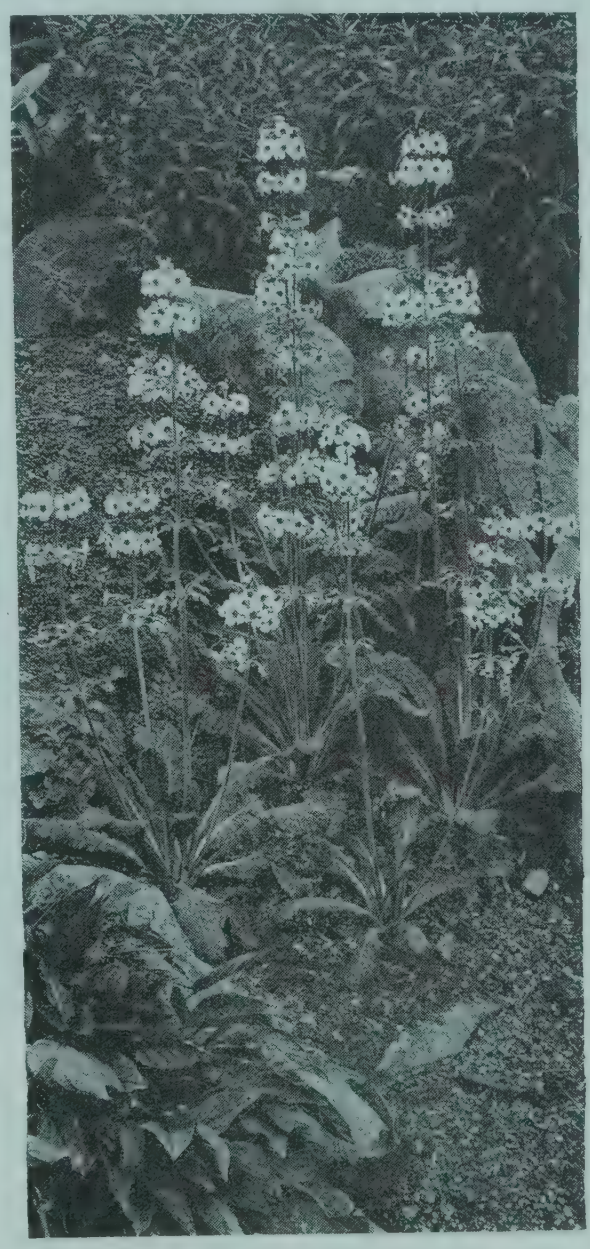
people an order for about one hundred different plants, comprising alpines, herbaceous plants, shrubs, bulbous plants, seeds, etc.), and they advise us that they could not execute the whole of our order, but in all about seventy-five plants were being shipped, and these would cost us landed in Dunedin about £15. Now can you *imagine* any firm shipping shrubs, herbaceous plants, alpines, tuberous-rooted plants, Sweet Peas, Carnations, Strawberry plants, &c., in a box closely boarded, 24ins. by 20ins., inside measurement 9ins. deep, and packed indiscriminately layer upon layer, and to make doubly sure that the plants would be choked and smothered, two or three layers of paper wrapped around each particular plant, which were laid sideways in the box and closely battened down, and then the box was thrown on board the steamer and packed as ordinary cargo. It was four days after the ship had reached its destination before we could locate the box! You can imagine the contents of the box, such as Phlox, Campanula, Androsace and Montbretia, also Sweet Peas, Violas, Aubrietia and Saxifrages packed in this manner; how the week after being packed the plants would die for want of air; but when they landed in Dunedin we found that the Sweet Peas had sprouted and the plants were just a mass of mould and decayed matter, with the exception of Viburnum and Philadelphus. All the rare plants were dead, and out of the lot all we could possibly save were plants to the value of about five shillings, From our point of view the unfortunate part is that we are *still anxious to secure* these novelties.

We want them, and had the shippers exercised ordinary commonsense and looked after the interests of their customers instead of packing in one box, they would have used about five boxes and, further, would have forwarded the Sweet Peas under separate cover.

Let us make a suggestion. When we ship plants from Dunedin to Australia and South Africa, all plants are shipped in 6in., 8in. or 10in. pots unless plants are too large, and these are balled. The 6in. pots are packed in cases closely boarded on the bottom to 8ins. high. Some battens are placed along the top of the row of pots to keep each pot stationary, and there is no fear of a pot becoming misplaced. Cork dust is packed between each pot. Now over the top of the plants small wire-netting is erected in the shape of a gable over which scrim is placed. The gable ends of the box are only protected with wire-netting, and our instructions to our shipping clerk are to place the plants on board steamer care of the chief mate, allowing him a special fee to see that they are stowed in a proper manner. The 8in. and 10in. pots are treated in a similar manner, and the balled shrubs are also packed, but instead of cork dust between each plant sphagnum moss is used, the plants being battened down in such a manner that they cannot shift if the case is upset at any time, and the gable put over to roof the plants protects them from excessive heat or particularly cold weather, leaving a fresh current of air to pass from end to end of the box. Now, if you know anyone in England who will take special care and supply us with novelties such as we require for our trade, seeds, &c., we are willing to place an order and fully compensate for all work entailed. Do you think we can secure plants from Kew? Without a doubt they have some of the finest growths, and it appears to us to be a great pity that they do not issue a special catalogue. We are satisfied that if they would cater for the public there is an immense future ahead of them. Can you assist us? If so, your assistance will be greatly appreciated by—A New Zealand "Novice."

HARDY PRIMULAS IN CULTIVATION.

WITH reference to Mr. Dalrymple's notes on above in your issue of July 23, there is no doubt that Primula helodoxa, as its name implies, is a lover of damp ground. Here I have all mine with their roots in the water and both my old plants and young seedlings (of last year) are fresh and green even after this prolonged drought. I noticed at Wisley in May that already their plants of P. helodoxa were looking stunted and dried up owing to not being in a damp position. With regard to propagating, I am sure the right thing is to sow the seed immediately it is ripe and then practically every seed germinates. P Littoniana:



THE BEAUTIFUL PALE PINK FORM OF PRIMULA PULVERULENTA.

Why is this Primula supposed to be difficult to grow? This year I kept twelve in a frame during the winter and put twelve out of doors; both lots flowered about 75 per cent., but the plants wintered out of doors were the stronger; both lots were planted close to the stream and in partial shade; is it a biennal? P. pulverulenta Mrs. R. V. Berkeley: I always understood this variety would not grow from seed and had to be increased by division. P. vittata I have not got and have only seen it at Wisley and Edinburgh. There was a beautiful white Primula at Wisley which I saw this year and had flowered for the first time I have mislaid its name. Lissadell hybrids: I have had some beautiful flowers from these this summer of various colours, clearly showing Beesiana and Bulleyana parentage. Curiously enough Sir Josslyn Gore-Booth wrote to me from Lissadell saying he had given up trying to grow Littoniana and a short while ago he was asking for helodoxa, which I was glad to give him.—H. G. Hawker, *S. Devon.*

[Primula Mrs. Berkeley is a natural variety of P. pulverulenta. Most, if not all, strains of P. pulverulenta throw a small percentage of pale pink forms, of two distinct shades and habits of growth. The deeper coloured form is consistently stronger in habit of growth and looser in the panicle than the pale one. Both forms are fertile and pollinated with pollen from pink flowers produce nothing but pink forms. Mrs. Berkeley was the name given to one of these natural forms sent out by Messrs. James Veitch. It has since been propagated largely by division. Such divided plants can be pollinated by any form of P. pulverulenta or even by related species such as P. Cockburniana, but no Primula can possibly be self-pollinated. This tendency of P. pulverulenta to sport is interesting and we shall be glad to have readers' views as to the factors bringing it about.—Ed.]

AN INTERESTING FIND.

ALTHOUGH my experience is similar to the Editor's in not having noticed in cultivation any light blue form of Gentiana verna, Mr. Collingwood Ingram, who has recently seen "a delicate Forget-me-not blue variety" on the French slopes of Mont Blanc, will be interested in hearing that such pale blue forms are not very rare in the Alps, and that this particular tint is well illustrated in a beautiful plate of Gentians by George Flemwell in our book on "Sub-Alpine Plants" (1912). It is there associated with a couple of mauve flowers, a pure white blossom, and the normal type—all gathered by us in the summer of 1911 above the Chamonix Valley, *i.e.*, in the district spoken of by Mr. Ingram on page 372. On the same plate are G. ciliata and a white form of G. asclepiadea with the ordinary deep ultramarine one. In the letterpress I described the flowers of verna as "light or dark azure-blue, varying considerably, and occasionally mauve or white." I then drew attention to Flemwell's "Flower-fields of Alpine Switzerland," in which " is a beautiful and unique picture showing all these varieties of colour." In my former book on "Alpine Plants of Europe" the colour forms of verna were described in the same manner. Mr. Flemwell has written not a little on the remarkable variety in colour of this and other alpine Gentians. In his "Flower-fields" a whole chapter is devoted to the vernal Gentian. It is to be regretted that more of the exquisite originals of his alpine flower paintings are not in this country. A large number adorn the palace of an Indian Prince on the far off slopes of Thibet. In reproduction on a smaller scale they, of course, lost much. As I write, I compare the reproduction in three-colour process of the two yellow Foxgloves of Switzerland (grouped with the rich mauve Mulgedium alpinum) with the original on my walls. There the most refined and subtle colouring of the two species of Digitalis is portrayed in all its delicacy upon dull green paper, whereas the background is a mixture of copper and stale mustard in the published plate. But even the reproduction gives what I have seen in no other book, viz., the characteristic dull blue colour of the *faded* flowers of Mulgedium, which is invariably the case in Nature. In some journal I once drew attention to the extraordinary colour forms of Gentiana bavarica; for in two places in the Mont Blanc massif I saw quantities as rich a violet and even deeper in shade than the flowers of the lovely G. pyrenaica, whose trailing stems

and fringed corollas adorn damp pastures and banks of rivulets in the Eastern Pyrenees and in the Carpathians, but never in the Alps. This little gem was exhibited in the horticulture tent at the Bath and West of England Show last May. In Mr. Flemwell's "Flower-fields" there is also a beautiful plate of G. bavarica, both dark and paler blue, set in the midst of G. campestris of two shades. But most of the Gentians vary in colour; and as blue is the predominating colour the variations are not surprising. Do not the majority of blue and purple-blue flowers do the same? The large flowered Gentian, commonly called acaulis by gardeners, is extremely rare with white corolla, and still more so purple. But here again a white form was painted faithfully by Flemwell, and is shown on Plate xxv of our joint work. On the same sheet is depicted the normal coppery red of G. purpurea, together with a good representation of its scarce yellow variety, called flavida. It may not be out of place to add that your correspondent's name recalls to my memory the very clever water-colour sketches and paintings of alpine scenery, mostly done in Switzerland and about Chamonix, of the late William Collingwood, R.W.S., who was born at Greenwich in 1819 and died at Bristol in 1903. Besides exhibiting at the Old Water Colour Society, his beautiful work was often seen at the Royal Academy.—H. STUART THOMPSON.

TWO books I should very much like to bring before your readers are: "Alpine Flowers and Gardens," by G. Flemwell; "Sub-Alpine Plants," by Messrs. H. Stuart Thompson and Flemwell. Both are of the greatest value to the alpine lover and I imagine Mr. Ingram will find much information in these books upon Gentiana verna, including colour variations from pure white, through all the stages of blue. There is one remark in Mr. Ingram's notes to which I should like to call the attention of travellers. "But as I am not an expert alpine gardener, have little hope of flowering it." As a lover of wild flowers may I beg of travellers not to uproot these treasures, but rather, as Sir Herbert Maxwell suggests in his "Memories of the Months," grow them from seed. If this Gentian, found by Mr. Ingram, is really an unknown species or variety, it would be the easiest possible method to mark the spot and have the seed collected when ripe. Some of our friends living in the Alps would, I am sure, be pleased to do this. I am convinced from experience most of our collected plants have the remotest chance of recovery when removed to our English gardens.—J. P., *Warrington*.

[STREAK IN SWEET PEAS.

I VENTURE to give my views, based on long experience of the above subject, in response to your invitation appended to Mr. Frank Bonnett's letter in THE GARDEN of July 23, page 371. I think the cause of the trouble in Mr. Bonnett's case—as in most, if not all others—is revealed by his announcement that he is "something of a specialist," and that it is his "strongest plants, with stems an inch across," that are being attacked. "Stems an inch across" proves to me that there has been over-feeding, which is always inimical to the health of any plant—or animal either, for that matter! If undue liberties are taken with Dame Nature she will assuredly have her revenge. I have never experienced streak, but then I am not even "something" of a specialist. I just grow Sweet Peas for decorative purposes. Our plants have stems with a maximum breadth of three-quarters of an inch and attain a height of 8ft. to 10ft. in a normal season. The flower stems range from 12ins. to 16ins. in length, surmounted with three good blooms and sometimes four. I am by no means convinced that a stem with four blooms is more decorative than one with three. We sow in the second week in February in rows in boxes, germinate in a greenhouse temperature, remove to a cold frame, gradually harden off, and plant out towards the end of April. A trench in the case of lines, or a pit in the case of clumps, is taken out during winter, some farmyard manure is placed in the bottom, and the trench is filled with old Chrysanthemum, Tomato or Cucumber soil with a moderate dressing of soot and wood ashes forked in before planting. The plants are placed 6ins. apart and staked with twigs forthwith. The plants get either one or two moderate dressings with chicken manure or soot during the season and are given water in time of drought. This is how we avoid streak in the production of decorative Sweet Peas. Those who aim at the production of monstrosities must take the risks.—CHARLES COMFORT.

HIMALAYAN RHODODENDRONS.

LAST January, owing to a death, I was asked to take over several of the more delicate Himalayan Rhododendrons. I had intended taking delivery of these after the spring frosts were finished, as I proposed to grow them in exceptionally sheltered positions outside and not under glass as they had previously been grown. For various reasons, however, they were delivered to me on February 7, having been brought, as I afterwards discovered, from a heated house. Not having sufficient cold house space available for the bigger specimens, I determined to try the experiment of their immediate planting outside. The result has been eminently satisfactory, but in the case of a good specimen of true R. Griffithianum, measuring over 7ft. by 7ft., it has given rise to what must, I think, be a quite unique duration of flowering period. When this specimen arrived I noticed that one or two flower buds were exceptionally developed and I realised the great danger of exposure. A site was therefore chosen in a very sheltered dell filled to overflowing with large R. ponticum up to some 20ft. or more high and overshadowed by large Pines and Spanish Chestnuts. The R. ponticum were cleared from a suitable area, the R. Griffithianum planted and a temporary roof of Cupressus Lawsoniana branches placed over it. The soil, being peat, leaf mould and sand is most suitable and the experiment has been an entire success. While it is true the period, February—May, was this year exceptionally mild, there was some frost, but the R. Griffithianum has come through perfectly and is to-day in splendid condition. The first flower bud burst on February 14, and there has always been flower on the plant from that date until July 10, when I removed the last truss. In my experience five months of continuous flowering is quite unique. The temporary roof of branches was removed on May 14. The plant has made excellent growths, the colour of the foliage is good and altogether it does not appear to have suffered in any way. I may mention the garden is just within thirty miles of Hyde Park Corner.—J. B. S.

THE VITALITY OF SEEDS.

THAT the seeds of certain plants, under favourable conditions, retain their vitality for many years is a well known fact, yet one occasionally gets surprises in this connection. I grew the white Mignonette, Reseda alba, for a number of years, but discarded it some seven or eight years ago owing to its lack of fragrance. The bed which the Mignonette last occupied has been dug and filled with annuals each year since, and has never shown any traces of self-sown Mignonette until this season when ten plants have put in an appearance and are holding their own amid a host of Godetia Crimson Glow.—CALEDONIA.

[Self-sown Mignonette will undoubtedly come up after a period of years, though stored seeds lose vitality quickly.—ED.]

A LARGE WHITE AZALEA.

HAVING seen in THE GARDEN of June 25 an illustration of Azalea ledifolium, as it may be of interest, I am sending a photograph of what I believe to be the same Azalea in my garden and which I think equally fine. It was a perfect picture this summer, being a mass of white when the flowers were out. The bush measures 15ft. across, 5ft. 6ins. high and 40ft. in circumference.

A FINE WHITE AZALEA AT SOUTH GODSTONE.

It has other shrubs near it which prevent it growing as large as it would or such a good shape as the one in the picture in THE GARDEN.—SOUTH GODSTONE.

IN PRAISE OF LONICERA THIBETICA.

I AM afraid I cannot agree with Devoniensis in your issue of May 28 about either Lonicera syringantha or L. thibetica. L. syringantha in good loamy soil and with decent treatment, having the old wood removed annually after flowering, makes a low bush in the open that simply covers itself in spring with small clusters of pale or darker pink trumpets, according to the form grown. Each flower is fully as large as a good sized Lilac flower and as sweet as any Daphne I know of. These clusters of flowers are followed by berries resembling small red currants, generally four or five, in a stemless cluster. There is no great attractiveness in the foliage and unobservant people are apt to pass a bush minus flowers or berries without remark, but the flowering season is fairly prolonged, four to six weeks generally, and during that season few people possessed of normal olfactory powers are likely to pass this plant without giving due expression to their delight. Both birds and dormice are

fond of the berries and soon strip the bush of its clusters of glowing garnets. Planted against a wall L. syringantha runs up above man's height very quickly, and I know of few shrubs I would rather have near my open window. L. thibetica in the form I know and possess has flowers at least twice the size of those of L. syringantha. They are waxy in texture and reminiscent of some Bouvardias, milk white, flushed pink, in larger axillary clusters and followed by larger fruits, which are just as eagerly sought after by birds. The foliage, too, is larger, more glaucous and silvery on the reverse. The scent is much less pronounced, but the whole plant is at all times much more conspicuous than its smaller relative. As I know it, it soon makes a nicely rounded bush of 2ft. to 3ft. high and as many feet through. In late summer or very early autumn I cut out nearly all the shoots that have flowered and allow the many young shoots that have sprung up between them to take their place, removing all those that do not appear very strong and so have, year by year, a bush that is much admired by visitors to my small garden. I can quite believe that a neglected bush, choked up with exhausted growths, is not free flowering or at any time an object of remark and these notes are by way of a plea to give some slight cultural assistance to the shrubs in our gardens which are by far too many gardeners, both professional and amateur, planted and left to their own devices until the shrub border becomes a choking jungle or until a man with a pair of shears is turned loose in it, trimming in everything neatly and cutting away most of the growths that would have provided flowers for another season.—W. E. Th. I.

TWO NEGLECTED LITTLE BOOKS.

TO the average man Lancashire spells cotton, coal, iron wire, and the hundred and one commodities for which this workshop of England is noted. Perhaps then there is some small excuse for the two books, "A Year in a Lancashire Garden" and "The English Flower Garden," remaining upon the shelves of the publishers and booksellers or in the hands of the dealers in second-hand or otherwise neglected (new) books. For my own opinion I believe it is within the range of probability that these two books, or the exact locality of Mr. Bright's Lancashire garden, may be better known to Americans than to us Lancashire gardeners bred and born. Had J. J. addressed his notes to the readers of an American journal, I have not the least doubt but that he would have been overwhelmed by correspondence. What a garden Mr. Bright's was. Though, to quote from page 2, "We get smoke on one side (*i.e.*, Liverpool), and salt breezes on another, and worst of all, there comes down upon us every now and then a blast, laden with chemical odours, which is more deadly than either smoke or salt." The chemicals would be from Widnes, Runcorn and Liverpool, the salt from Liverpool Bay, so the reader will have a very good idea of the difficulties under which this beautiful Lancashire garden was cultivated. My own garden for twenty years—the first garden I ever knew—was not five miles away from the smoke of works, some of them chemical works, so it may easily be realised that these two books of the late Mr. Bright have a very great charm for me personally, not only for their really practical information and instruction, but for their pleasant, chatty style. As one writer hath it: "Quaint reflections, apt quotations, and scraps of classical lore are interspersed through the text in a very pleasant fashion." These are books the "tired business man" may take with him, and meditate upon as the evening shadows lengthen. In the quiet of his rest house he may find solace and refreshment. On page 87, "English Flower Garden," there are

Of all plants grown in these old gardens, surely this plant was the one most in favour. It is, I think, without exception, spoken of in terms of the greatest praise. It may interest readers to know that the two books may be purchased for the small sum of 4s. 6d. This is the sum mentioned in Messrs. Weldon and Co.'s catalogue.—JAMES PARKINSON.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Plants Which Have Stood the Drought.—The unusual spell of drought has been a severe test for many plants. A point of considerable interest to note is how many have behaved. Some, I fear, will not be anything like so good in August and September as they would otherwise have been. Among perennials which have given excellent results without much additional attention are Delphiniums, Romneya Coulteri grown at the foot of a brick wall in the baking sun, Alstrœmerias, Salvia nemorosa and Coreopsis grandiflora. Among annuals, Antirrhinums stand out prominently, also Phacelia campanularia, which I have never seen finer; Clarkias, too, have done well, and Nemesias, more especially Orange Prince and the large flowered strain. The soil for the whole of the plants, with the exception of the large flowered Nemesias, is very light. Verbena venosa raised last August and planted out in April has proved quite sunproof and the plants are full of flower. Lavender has done splendidly, and Nepeta Mussini has once again proved its sterling worth for garden decoration. To raise fresh stock of the latter, cut the plants over immediately they have finished flowering, when some vigorous young growths from the base of the plants will soon be available as cuttings, which should be dibbled in sandy soil in a cold frame. Another and probably more general method of increase is to lift the plants and divide them, when each small piece potted up and put in a cool frame will make good plants for spring planting.

The Kitchen Garden.

Autumn Onions may be sown at any time from about the 8th to the 20th of this month. The ground should be thoroughly well prepared and the surface soil brought to a fine tilth and made firm by treading or rolling, and the drills drawn about 15ins. apart. Where it is the practice to transplant a portion of this crop either during November or February and March, it is naturally not necessary to waste much labour on the site for the seed bed, but transfer it to where the crop is to mature. Where there are large demands during the early months of the year for small Onions for salad purposes, it is a good plan to sow a breadth entirely for this purpose, and, as they are only required small, it is not at all necessary to heavily manure for this crop.

Cabbage to stand the winter and furnish a supply of heads in early spring should be sown by the middle of the month, and another sowing for succession in about a fortnight or three weeks' time. Sow thinly in drills drawn a foot apart, and select an early maturing variety such as April, Harbinger, Flower of Spring or Emperor.

Potatoes.—Early and second early varieties having completed their growth are much better raised and either removed to store or lightly clamped outside. In spite of the long dry spell the above have cropped quite well, while the eating properties have also been good. Late varieties on newly turned pasture worked from 2ft to 3ft. deep also so far promise well.

Hardy Fruit Garden.

Raspberries.—The summer fruiters have finished their yield and pruning may be taken in hand as early as convenient. Remove all old fruiting canes close to the ground and also weedy and unnecessary young growths. The early carrying out of this work enables the whole of the plants' energy to be centred in next season's canes. At this time of year young canes should be tied in their full length. Autumn fruiting varieties must be protected, and if available a good watering should be given, assuming no heavy rain has fallen recently, and afterwards apply a liberal mulch of decayed leaves and rotten manure.

Plants Under Glass.

Roman Hyacinths.—To obtain an early supply of blooms, the sooner the bulbs receive attention the better. When grown in pots, use pots of about 5ins. or 6ins. in diameter, allowing the bulbs to touch each other when arranged in them. When large supplies are required for cutting for decorative purposes, pans, bowls or neat boxes are advisable, as less room is required. Use a fairly rich and open compost, and when potting or boxing is finished place on a bed of ashes outside or in a cold frame, give one good watering, then cover up with coconut fibre until the bulbs are well rooted and generally by that time top growth will have commenced. All other bulbs required for forcing should now be decided upon and the order placed as early as possible.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Lettuce.—The hardiest type should now be sown so that they may be able to withstand the chilly weather which we are sometimes subjected to during the autumn months. Commodore Nutt and Continuity are both acceptable sorts for late season work.

Turnips.—A final sowing of a quickly maturing variety may now be made on ground which has been cleared of Shallots or such-like early crops.

Potatoes.—Early sorts are proving of excellent quality, although somewhat light of crop owing to the drought. Sizes suitable for seed should be placed in shallow boxes and allowed to ripen before storing in suitable quarters.

Peas.—Late varieties are looking well, particularly on the heavier soils where they have been more able to withstand the drought. Should circumstances permit they may be assisted with copious waterings of liquid manure. Clear the ground of early lots that are past and utilise the ground for catch crops, such as early round Spinach.

Beetroot.—Early sown Globe-shaped sorts should not be allowed to remain in the ground after they have attained a respectable size, as they are inclined to become coarse and stringy. Lift and store in a cool position, when they will be found to keep in perfect condition for a lengthy period. Keep the later-sown long-rooted sorts growing freely by constant use of the Dutch hoe.

Seakale.—Where plants are grown for forcing attention should be paid them in the way of rubbing off superfluous crowns, reducing them to one. Keep the soil well stirred and give a dressing of artificial manure during showery weather.

Fruit Under Glass.

Melons.—Only where there is a good command of fire-heat will it be wise to plant further batches of these. Exercise care in the watering of plants in bearing, as there is a possibility of canker being encouraged by the indiscriminate splashing of water about the collar of the plants. Should this disease be noticed the stem may be surrounded by a little freshly slaked lime, when the plants may be able to carry on until the fruits are ready for harvesting.

Vineries.—The want of artificial heat in many establishments owing to the coal strike has had a deleterious effect on the more tender varieties of Grapes. Although fortunate in having plenty of brilliant sunshine during the day, the nights have been exceedingly chilly, and during the first week of July the thermometer dropped very nearly to freezing point. In the later vineries bunches should again be looked over where there is a likelihood of wedging taking place at the final swelling. Every help should be given the Vines in the shape of liquid or artificial manure, so that the berries may properly swell. Until the colouring stage is reached the house should be kept in an equable and healthy moist condition.

Plants Under Glass.

Winter-Flowering Chrysanthemums. Staking and constant attention in the way of tying is now necessary among late Chrysanthemums

Never allow the plants to become dry at the roots and assist regularly with waterings of artificial and liquid manure, varied occasionally by doses of soot water.

Cyclamen.—Young plants should now be growing vigorously, and care should be taken to ward off attacks of thrips, which may be kept in check by vaporising. Keep a free circulation of air, and occasional assistance with weak manure water will add to the size of the richly coloured flowers.

Poinsettia pulcherrima.—Early struck cuttings should now be moved into 6in. pots and kept growing freely. These brilliantly coloured stove plants are highly prized for decorative work during the dull period of the year.

The Flower Garden.

Hardy Flower Borders.—The brilliant weather experienced here has brought on all hardy plants much ahead of their usual periods of flowering, and perennials generally are making a fine display. Staking and tying still claim a good deal of attention, while the hot spell has been eminently suitable for cleaning up the borders with the minimum of labour.

Rambler Roses have been making considerable growth, so should be tied loosely in until such times as the spent wood may be cut away and replaced by the present season's growth.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

SUNDIALS, URNS AND VASES IN GARDEN ORNAMENT

ONE of the earliest forms of sculptured ornament in our gardens was the shaft of the sundial; and to-day, though its original purpose as a timekeeper is now of negligible value, it remains as an always desirable garden decoration. Those that are still with us as relics of the old Tudor gardens are often found dissociated from what must have been their original place and purpose as the central feature of a parterre or knotted garden, for they are found here and there standing alone in grassy places, often without the steps or platform on which they must have been originally fixed. The English sundial, though sometimes mounted with a sculptured figure or group, was most usually of a baluster form, more or less enriched, with the actual dial set horizontally, with the upright gnomon to show the sun's shadow. The Scottish type was a larger structure with a tall upright shaft and obelisk finial, the main portion being covered with faceted forms both projecting and hollow. Another kind of sundial was the armillary sphere, but the appearance of this is rather that of a scientific instrument than a garden ornament. Though these are interesting to the better informed, it is safest to keep to the general English type such as the baluster, either round or square in section, that is always pleasing to the eye.

A LEAD VASE OF PLEASING

It was not till Jacobean times that sculptured ornament other than that of the shafts of sundials was used in English gardens. As in the case of so much other decoration, it came to us from Italy, many existing examples having been actually imported down to quite recent times, when stone and marble well-heads were brought over to be used as flower vases in central points of some parterre or other garden design. But, of all materials, lead is the one best suited to our climate, and in the seventeenth and eighteenth centuries English and Dutch designers produced some notable work, much of which remains, and happily, will remain, for it would appear to be almost

A Bevy of Charming Rock Cresses

THERE is no group of plants available for rock garden decoration to-day that can give a more glorious display when used boldly and freely than the Aubrietias In making this statement I am not quibbling about the relative values of plants, but base my remarks upon the superlative value and grand effects that have been achieved by a free and thoughtful use of the Aubrietias.

Beautiful as the Aubrietia is as an individual plant, it carries a ten-fold beauty when used in great drifts and masses upon the sunny slopes of the rock garden, where, streaming down between the boulders in a prodigal fashion, the great torrents of mauve, pink, red, rose, purple, violet, blue and lavender shades create a picture well-nigh indescribable.

The only picture which approximates in warmth of tone and riot of harmonising colour are the great sweeps of Heather in full blossom upon the rising hills and moors in late summer. There is a kinship in the colour tones, in the profusion of blossom, which makes the heath-clad hills vividly remembered when among the drifts of Aubrietias in spring.

If there is one variety more than another which repeats the red-purple of the Bell Heather it is assuredly Lady Marjorie, one of the newer and more effective colourings which the improvements of recent years have given us. The colour-tone of Lady Marjorie appeals to the artistic eye and the colour sense in a wonderful manner. There is a soft sheen in the hue which forbids any "hardness in effect," and the variety may be said to link together the two great sections of Aubrietias, the pinks and reds. and blues and purples.

Plant Lady Marjorie if you can get it! Plant Invicta too! Invicta is the best of that beautiful series of which Excelsa and Duke of Richmond were the predecessors. The flowers are bold and good, the general effect splendid and the colour is of the deepest purple violet, to which a tone of crimson has been added. This crimson tone gives the flower a richness and glow of beauty which immediately rivets the attention. If desiring to plant up a big sweep of deep, intense colour I would prefer to use Invicta—or Rival!

Rival, I believe, is one of the finest Aubrietias in existence. It is very dwarf and compact in growth, with hosts of well set, rounded blossoms of an intense violet shade. The crimson tone of Invicta is non-existent in Rival and the other dark-hued varieties, pale in comparison with its depth of colour and intensity. Dr. Mules can show an intense colour tone *en masse*, but Rival outrivals it!

Speaking of Dr. Mules, I would urge its inclusion in all gardens where it is not grown. It is certainly superior to such forms as Perkinsii, Lloyd Edwards, Craven Gem and Pritchard's A 1, whether for rock-gardening or for carpeting Rose beds, Dr. Mules is still decidedly good, and what is more, it is one of the most perpetual-flowering varieties that I know. Further, there is no purple in its violet-blue colour, and taken at all points the rock gardener should think twice, nay thrice, before discarding Dr. Mules.

"But!" I hear some reader exclaim, "what of the reds; which is the best red Aubrietia?" Happy as ever to oblige and writing without inside knowledge as to what the hardy plant growers may have up their sleeves, and speaking solely concerning "the goods that are on the table," I would answer unhesitatingly, "Vanguard!" There have been several good reds since the days when Fir-

Vanguard is the best of the reds. It has colour, size, form and is wonderfully free and attractive. Plant it out among other Aubrietias and I believe you would pick it out at first glance, even if you had never seen it before.

Triumph is good, but it is a dark crimson, lacking the brilliance of Vanguard. Bonfire is very bright, but is not quite so large a blossom. By the way, a mass of Bonfire can be very effective. Lavender is one of the élite, very well known by now, but a variety I would strongly recommend to all. Its soft colouring is beautiful and it makes a pleasing foil to some of its more vivid companions. Cinderella is near to Lavender, but lacks the white eye. It also carries a shading of mauve-pink which is absent from Lavender. making it quite distinct and to many, pleasing. One of the best blue Aubrietias I have ever handled is Felix, but the stocks of this are very small at present. It is perhaps the earliest of all the Aubrietias, with a strong habit, bold bright flowers and a long season of blossom. Concluding, I would advise planters of large rock gardens to remember what I call the "Rose Queen" set of Aubrietias.

Here are some of the paler shades, yet of great value for contrasting. Rose Queen, Lilac Queen, Moerheimi and Bridesmaid are typical forms and even seedlings from these make very beautiful plantings. These paler shades are none too freely used and are worthy of extended planting. This bevy may not be complete, but the reader will find it very representative. P. S. HAYWARD.

On Staking Plants.—Many of the plants and flowers that grow up in the summer require staking and tying, and if this attention is omitted a great deal of their beauty will be lost. Much of their loveliness will also be spoiled by using rough supports and bundling the plants up in any careless fashion. Rough, ugly stakes should be put with the Peas and Runner Beans in the vegetable garden, for unsightly staking and tying of flowering plants is worse than if left entirely alone, as most plants have a pleasing habit of their own which can either be enhanced or spoiled by staking and tying. Neat stakes and twiggy sprays are appropriate supports, and the stakes look best if put in 6ins. or 7ins. below the height the plants grow, as having a big thick stick in the middle of a plant and the top visible far above the flower is extremely unsightly. Thick, heavy stakes supporting slim plants do not add to their beauty. Hazel rods are suitable stakes for all ornamental plants. Birch twigs may be used for some plants, as they hold up the sprays without tying, and this style of staking is always graceful. Care must, of course, be exercised in staking and tying up the plants, especially with such tall-growing subjects as Hollyhocks and Dahlias. These fine plants are too often thrust at the extreme back of a border close up to trees or shrubs, where they have no chance of doing themselves justice, and their lower leaves are too often destroyed by red spider and caterpillars before their flowering is half over. A mulching now of 3ins. of rotten manure over the roots will be of the greatest assistance in prolonging their season of bloom.

The Chalk Flower (Gypsophila).—These are a most valuable race of plants for the border and rock garden, the majority being absolutely hardy herbaceous perennials, though a few, such as G. elegans, are of annual duration and simply need their seeds scattering on the surface of a well raked soil in spring to germinate in hundreds. It is more particularly with the perennial forms that we are concerned to-day, and of these from a border point of view there is nothing better than G. paniculata and its double variety flore pleno. These make great bushes 3 feet in height and as much through their branched growth, simply smothered with myriads of tiny flowers that are indispensable for adding grace and daintiness to cut flower arrangements. The single form is readily raised from seed, but the double, which does not perfect these, must be propagated by root cuttings. These consist of the smaller roots about the thickness of a thin lead pencil cut into lengths 3 inches long, and are inserted singly in small pots filled with very sandy soil and stood in a cold frame. Insert these so that the top of the root is just level with the surface, and keep evenly moist and they will then break into fresh top growth and form new plants. Another useful border form is G. acutifolia, with broader foliage than the paniculata type and a much more branched habit of growth. It reaches a height of 4 feet and has white flowers. The numerous dwarf and prostrate habited forms are very useful for the rock garden or wherever they can be allowed to droop over the edge of a stone or tile verging to a border and literally cover themselves with myriads of tiny starry flowers. G. cerastoides is a creeping form, but 4 inches high, with very white flowers, that continues in bloom from May to September. G. libanotica, is another very choice form, slightly taller and producing from May to September masses of pink and white flowers. G. prostrata is very charming, and trails about on the surface of the soil with myriads of white flowers all through the summer. There is a fine pink form of this that is a useful thing where variety is needed though the white is much the more effective. G. repens monstrosa is excellent, 9 inches tall, and bearing unusually fine white flowers for many weeks in succession. G. Stevenii is the earliest to commence flowering, with white flowers, and though it attains a height of 1½ feet, it needs a good amount of room, as the growths are semi-prostrate. G. Saundermanii is a delightful thing with quantities of fine rose pink flowers. All the dwarfer alpine forms love the fullest possible sunshine and a very well drained, light, gritty soil with plenty of limestone chippings. They do best of all in narrow pockets or crevices where the long fleshy roots can penetrate to a considerable depth and the prostrate growths can drape the face of a large rock or boulder with a curtain of their numberless flowers. On no account should the plants be transplanted if it can possibly be avoided, as they are thick and fleshy and usually penetrate so deeply that it is impossible to lift them without injury, which too often results in their death. Plant either as seedlings or from pots and leave them alone and there is no question of their success and hardiness. It will be noted above that limestone chippings are mentioned for the rock garden species, and it will be found to be equally appreciated by the border forms either in the form of chalk or mortar rubble.

The Value of Sweet Briars.—With the many beautiful forms of Lord Penzance hybrids to select from, Sweet Briars should be made more use of for the decoration of the garden For hedges particularly, where sufficient room permits them to roam at leisure, as they have a very attractive and natural appearance and might well replace some of the old hedges that often exist near gardens. Apart from the beautiful flowers and fragrant scent, the bright hips which are usually borne in great profusion are a source of beauty, as they remain fresh for a long time during the winter. They are ideal subjects for the wild garden, especially the stronger growing sorts. They can here be given room to display their naturally gracious form.

Important Appointment For a Scottish Gardener.—Mr. T. S. Dick, who recently went to South Africa, has just been appointed curator of the Corporation Parks at Cape Town. Mr. Dick is a son of Mr. John C. Dick, gardener, Poldrait, Linlithgow, and brother of Mr. John Dick, Superintendent of Public Parks, Coatbridge, Lanarkshire.

Le Mans International Horticultural Show. Readers of THE GARDEN interested in this show may like to know that the following provisional programme has been settled:

Saturday, November 5th.—9 a.m., judging begins; midday, judge's luncheon; 8.30 p.m., reception at the Town Hall of Le Mans by the Prefect of the Department.

Sunday, November 6th.—9 a.m., opening of the Congress; midday, official banquet given to the Jury (chairman, the Minister of Agriculture); 2 p.m., official opening of the show by the Minister, distribution of prizes; 8.30 p.m., gala performance at the Municipal Theatre given to the Jury and members of the Congress.

Monday, November 7th.—8.30 a.m., meeting of the General Committee; 9.30 a.m., second sitting of the Congress; midday, luncheon, followed by visits to places of interest in Le Mans.

Tuesday, November 8th.—Excursion to Sablé, reception by the Municipality, visit to the Chateau of la Marbrerie; midday, banquet under the chairmanship of the Mayor of Sablé; 2 p.m., return to Le Mans and break up of the party about 5 p.m.

Mr. Harman Payne, Commissaire Géneral of the British Section, will be pleased to answer any enquiries respecting this very promising show. His address is 195, Wellmeadow Road, Catford, S.E.6.

FORTHCOMING EVENTS.

August 8.—United Horticultural and Benefit Society's Committee Meeting. Bath Gardeners' Debating Society's Meeting.

August 9.—Royal Horticultural Society's Fortnightly Meeting.

August 10.—East Anglian Horticultural Society's Meeting. Titchfield Abbey Horticultural August Show.

August 11.—Taunton Deane Horticultural Society's Annual Exhibition.

August 12.—Royal Horticultural and Arboricultural Society of Ireland's Council Meeting.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Corent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

DELPHINIUM FOR EXAMINATION (M. S. G., Chertsey).—The green centre of the flower of the Delphinium is due to the production of supernumerary carpels. It would be considered a defect from the point of view of garden decoration.

LAVATERAS ATTACKED (N. H.-T., Scotland).—The Lavateras are attacked by the fungus Colletotrichum malvacearum. This fungus destroys the tissues of the stem and circles it so that flow of sap is prevented and the plants die. All diseased plants should be destroyed by fire and the others should be sprayed with Bordeaux mixture or with a solution of 1 oz. potassium sulphide (liver of sulphur) to 3 gallons of water.

AURICULAS DYING (B. S., Wandsworth).—Most probably the cause of the Auriculas gradually dwindling away is summer drought. Our correspondent does not

say whether or not they were transplanted after the flowering period was over; if such was the case, this would aggravate it. All the Primrose family are lovers of atmospheric moisture, and they like their roots to be cool in summer. These are conditions that do not obtain in the usual flower border, and in order to overcome the difficulty some successful growers place moderate-sized stones around the plants during the summer months. Another plan would be liberally to topdress with leaf-mould.

ROSE GARDEN.

ROSES (Felsted).—Dupuy Jamain would grow 5ft. if left unpruned. E. Levet is a stumpy grower. Jessie will flower from June to October. One of the best Polyanthas for edging is le Merveil des Rouges.

WICHURAIANA ROSES (M. M. K., Liverpool).—Good Wichuraiana Roses somewhat of the René André type are François Juranville, Paul Transon and Elisa Robichon. Other Wichuraiana Roses to be recommended are Shower of Gold, François Guillot and Dr. Van Fleet.

MANURING ROSE TREES (Felsted). — Do not put Superphosphate or sulphate of potash under newly planted trees as these will kill the plants. Better use basic slag for below roots and bone meal just under surface. Our correspondent can supplement these, if necessary, by guano or some good fertiliser, such as Clay's, during the following summer.

SOME GOOD CRIMSON HYBRID PERPETUAL ROSES (Felsted). — Good crimson Hybrid Perpetual Roses are Mme. Victor Verdier, Marie Baumann, Louis Van Houtte, Charles Lefèbvre, Crimson Queen, Sénateur Vaisse, Jean Liabaud and Exposition de Brie. Rose Lady H. Stewart is very thin. Sir Rowland Hill a miserable bluish colour and Mme. G. Luizet is a pink Rose. There are no Hybrid Tea Roses of rich crimson colour with solid blooms except George Dickson.

THE APPROXIMATE DATES OF FLOWERING OF RAMBLER ROSES (Helvetia).—American Pillar, July 7; Blush Rambler, July 1; Havering Rambler, June 20; Hiawatha, July 1; Turner's Crimson Rambler, July 1; Dorothy Perkins, July 7. The following climbers flower from June to October: Mrs. W. J. Grant, Ophelia, W. A. Richardson, Lady Hillingdon and Irish Fireflame. A season such as the present the plants would flower a fortnight earlier. Our correspondent should plant some of the earlier-flowering sorts, such as Gardenia, Tea Rambler and René André.

VARIETIES FOR ROSE-BED (Risegate).—We are of the opinion that a Rose-bed is never so effective as when it contains only one variety of the dwarf Roses, and of those named by our correspondent he should choose Gorgeous. If, however, it is decided to edge the large circular bed with a dwarf Polyantha Rose and to have more than one variety of Hybrid Tea, we suggest edging it with Mrs. W. H. Cutbush and that the bed be divided into three equal segments planted with Lieutenant Chaure (facing the road), Dorothy Page Roberts and Gorgeous respectively. The soil preparations outlined by our correspondent are quite good, and should suit the Roses admirably.

GREENHOUSE.

CARNATIONS ATTACKED (R. S. K., Caithness).—The Carnations have probably been attacked earlier by green flies, but the foliage arrived in so dried up a state that it was impossible to be quite certain. The plants should be carefully examined and fumigated if necessary.

TREES AND SHRUBS.

CLEMATIS UNSATISFACTORY (G. W.).—The Clematis has probably been attacked by a fungus which fills the wood vessels and interferes with the flow of water. It may be, however, that it is suffering from the exposure of its roots to the sun; they must be shaded.

SALIX CARDINALIS (Felsted).—We suspect that our correspondent, who asks if Salix cardinalis is synonymous with S. rubra, has confused the name with Salix purpurea, as S. cardinalis does not seem to be recorded by any reputable authority, though it may be a nursery or a local name. As no doubt "Felsted" has seen in Bean's "Trees and Shrubs Hardy in the British Isles." S. purpurea is a variable species, and one form is known as Red-bud, and we should not be surprised to learn that somewhere this is also locally known a S. cardinalis.

FRUIT UNDER GLASS.

VINES UNSATISFACTORY ("Taffrail").—The Grapes are attacked by the trouble known as shanking. This is the result of some interference with the water supply, and generally arises through sourness or want of effective drainage in the border, which should be attended to at the earliest opportunity.

VINES FAILING TO PRODUCE FRUIT AND BRANCHES DYING OFF (P. S., Leeds).—The cause of the trouble with the Vine, we think, will be found mostly at the roots. Our correspondent does not say what the artificial manures were which he applied, in February, 1920, to the inside border, or the quantity used. Excessive quantities of artificial manures may have caused the mischief. In respect to the outside border our correspondent ought, in the first place, to make up his mind to keep it free and sacred to the roots of the twelve Vines. Surely it will be possible to find another corner of the garden for the plants named. The next thing which should be done with the outside border as far as it extends is to wheel away the top soil deep enough to expose a good body of roots. The roots may be old and fibreless; never mind; let the same be ringed, in the way that stems of old sterile fruit trees are sometimes done, by cutting slits in their bark lengthways a little deeper than the bark; new roots will emit from these cuts in spring. Having done this, lay over the roots to a depth of 6ins. a top-dressing of best Vine soil, and tread firmly down. The work should be carried out, when the soil is fairly dry, at the end of October or early in November. Serve the inside of the border the same way at the same time. This will in due time encourage the formation of a great mass of new roots early in summer and cannot help but give new life and vigour and also fertility to the Vines. The Vine spurs should not be overcrowded with useless foliage in summer, as this makes it difficult for the spurs and their buds to develop and ripen properly. The borders should be effectively drained without loss of time, as success is impossible if the borders are waterlogged. Add a mulch of well-rotted manure over the new top-dressing about the end of May, say, about 4ins. deep, treading the same firmly down.

FRUIT GARDEN.

PLUM TREES SPLITTING (A. E. W.).—Unless the trunks of the Plum trees are exposed to strong sun, the splitting referred to by our correspondent is to be regarded as natural. It would be wise to paint the cracks if they are at all deep, using a lead paint.

PEARS CRACKING (W. J. H., Ireland).—The Pears are badly attacked by the fungus Venturia pyrina and this has caused them to crack. The tree next season should be sprayed with Bordeaux mixture just before the buds burst and again after the fall of the petals.

PLUM TREES ATTACKED AND OTHER QUESTIONS (L. G. W., Dunster).—The Plum trees are not attacked by silver-leaf but have had a bad attack of aphis. They should be sprayed with a Nicotine wash or with Katakilla as soon as the pest appears next season. It has probably left the trees now. Up-to-date is still an excellent Potato if seed is obtained from a reliable source. Golden Wonder is the best flavoured maincrop Potato. Great Scot, though a second early, is a heavy cropper.

LOGANBERRIES ATTACKED (G. M. B., Oxford).—The grubs in the Loganberries are those of the Raspberry beetle (Byturus tomentosus). The beetles feed in the flowers, which they damage seriously, and lay eggs which give rise to the grubs our correspondent has found. They are difficult to deal with, and probably the best treatment is to spray the bushes with Katakilla while the beetles are in the flowers. The beetles are light brown in colour and about one-eighth of an inch in length.

KITCHEN GARDEN.

ASPARAGUS ATTACKED ("Wyndwater").—We see no evidence of the attack of the Asparagus beetle upon the plants sent for examination, but evidently something of a larger size has been at work upon them. We do not recognise the trouble, but think it would be well to go out at dusk with a lantern and search over the plants to see what the cause may be.

MISCELLANEOUS.

FLOWERS FOR TABLE DECORATION (Reader A. E., Cheshire).—As alternatives to Sweet Peas and Roses we suggest the use of some of the graceful annuals either of distinct varieties or mixed. As an example of the latter Clarkia elegans, Bartonia aurea, white Sweet Sultans and Saponaria vaccaria with appropriate greenery would be uncommon and could be arranged effectively. A one-flower table could be done with, such as Cosmos, Lupines, single Asters, Phlox Drummondii, Sweet Sultans, Shirley Poppies and the like. Although not an annual, sprays of Gypsophila paniculata would add to the effect of any of these flowers if used with discretion. The good selection and disposition of greenery always adds greatly to the effectiveness of any floral decoration. If the Shirley Poppies are used, it is wise to gather them in the evening, choosing those just on the point of bursting open, and place the stems in water immediately. The Poppies will then have delicately beautiful colours and remain fresh much longer than if cut when fully open. When deciding on flowers for table decoration we should be influenced, to a certain extent, by the weather. For a dull or wet day we should have bright, cheerful colours, but for the sweltering weather we have experienced this summer soft colours and delicate perfume are most grateful.

IMPROVING A LIGHT SOIL (C. B. W., Byfleet).—The large stack of leaf-mould referred to by our correspondent will make a valuable dressing for a light soil, and we recommend that a good proportion, say, an ordinary wheelbarrow load to 6 square yards, be well mixed with the top 12ins. of soil. If the soil is deficient in lime, apply 8ozs. of freshly slaked lime to each square yard, spreading it evenly over the surface before digging the ground. This should be sufficient soil preparation for planting out the seedling flowering plants. But it would be wise to defer the planting until after the rains come. As it is not possible to procure manure, we suggest that for the Roses Wakeley's Hop Manure be used according to the maker's instructions. We have found it excellent for light soils. It will also be suitable for mixing with the soil where the fruit trees are to be planted, and in each case the leaf-mould may be added in the proportion advised for the seedling plants. Thomson's artificial manure is an excellent plant stimulant for use either in the kitchen garden or for the flowers. The products of the Native Guano Company may also be confidently used.

NAMES OF PLANTS.—A. G. C., Holbeach.—Rose Ophirie (Noisette). —— "Octavia." — Bauschneria californica. —— "Portchester." — Platycodon grandiflorum glaucum. —— J. A., Osterley Park.—Buddleia variabilis, probably variety superba. Specimens poor; the tree probably needs pruning.

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THE GARDEN

No. 2595.—Vol. LXXXV.]

NOTES OF THE WEEK

[August 13, 1921.

". . . One day I stood
At dusk in the golden harvest lands,
And watched the sickles rise and fall
And the following women with patient hands
Gleaning all, gleaning all."

IN a season such as the present there has been and will be little work for sickle or bagging-hook. The harvest, if light, is stout of straw and stands well to the machine. Alike on farm and garden lands, harvest time is but an episode in the unending cycle of the year. Before the spring-sown Beans, Mangolds and Swedes are garnered, the winter Wheat should be safe in its seed bed. In the garden the whole season is practically one continuous harvest and one unending renewal. It is, nevertheless, convenient to consider this season of ripened grain and loaded wain as the end of the gardening year. With the advent of September begins the season of transplantation and renewal, so that it behoves us now to complete our plans for any re-arrangements or extensions that may be in contemplation.

Repairs and Renewals.—This is the season, too, when any greenhouse replacements or repairs should be put in hand. There are many places where new greenhouses have been really badly needed for some years. The war naturally held up all constructive work, and, since, the cost of materials and labour has in many cases proved prohibitive. The fashion for growing quantities of stove and greenhouse plants has gone, never to return, but glasshouses are none the less almost indispensable accessories to a flower garden. Not only so, but they provide profitable employment for the staff during inclement weather, and their cropping can be so arranged that they give comparatively little work during the busier and more open seasons of the year.

Greenhouse Construction. We hope shortly to publish an article on the construction of glasshouses which it is hoped will prove especially helpful, in that it will indicate economies in structure by means of which, combined with the fall in the costs of materials and labour, it should be possible to put in hand work of which, but a season ago, the cost seemed prohibitive. It is also hoped to deal with the question of site for the greenhouse, particularly from the point of view of making it, in the garden, a not unpleasing feature in a homogeneous whole, rather than an ugly if useful excrescence.

The Garden Beautiful.—The further article on design as applied to the suburban garden deals with a type of house and garden very common in the South of England and especially in the suburbs of London. A little consideration will show innumerable ways in which the ideas it incorporates could be used for gardens differing widely in form and size. Further articles on the design of small and medium-sized gardens with a view to making the most of the space at disposal are in course of preparation. A letter in our Correspondence columns disagreeing with the suggested treatments for the suburban "front garden" proves the truth of the old adage anent "one man's meat." Doubtless the vast majority of our readers will agree that a sort of miniature jungle or other so-called natural treatment is a poor setting to the necessarily formal lines of even the simplest house. Our correspondent's viewpoint is somewhat unusual, but it is one, it must be admitted, which he is fully entitled to take. A garden should, first and last, reflect the tastes and idiosyncrasies of its owner. It is the owner, after all, who "pays the piper," and he will, naturally, wish to have some voice in the airs selected! Many other readers have, no doubt, pronounced views on design as applied to gardens. Some will have strong leanings towards a wholly architectural treatment, as opposed to the natural arrangement suggested in the letter. We are convinced, nevertheless, that the vast majority of our readers, however decided their views may be on some subjects, have little or no *constructive* views on garden design. Critical ability they have, and it is by giving such readers something to criticise that these notes on design prove their value. To have one's likes and dislikes put into concrete form for selection must be of service. It is not necessary or desirable to select or reject a design as a whole. Even as a neutral tinted wallpaper allows latitude in the selection of the frieze and dado, so to the "body" of the designs submitted could suitable foregrounds and backgrounds be substituted so as to bring the completed scheme into line with one's own ideas.

A Pleasing Association of Plants.—Our illustration is characteristic of the season of the year. It shows a very recommendable association of plants. The uncompromising spires of the Summer Hyacinth, Galtonia candicans, contrast well with the more gracious spikes of Gladiolus brenchleyensis as regards habit of growth, but the notable contrast in colour, which the photograph cannot reproduce, forms the principal charm of the partnership. One can almost sense the fragrance of the masses of hybrid Tobacco plants in the background. No annual has this year given better results than the sweet-scented Tobacco, Nicotiana affinis and the hybrid strains in many colours called N. Sanderæ and N. affinis hybrida respectively, of which the former, opening by day, is more striking, and the latter, with its larger flowers which expand towards evening, the more truly beautiful. Its most pleasing feature however is its delightful fragrance, an interesting trait of many flowers which open by night. These two characteristics usually run

THE UNCOMPROMISING SPIRES OF GALTONIA AND MORE GRACIOUS SPIKES OF GLADIOLUS.

HARDY HEATHS AND HEATHERS

Fashions come and go in flowers as in other things. In days not so far distant greenhouses were extensively devoted to the cultivation of Cape Heaths. All that is changed. There are to-day many large gardens where even the equally beautiful and unexacting Hardy Heaths are poorly represented or even entirely wanting. This should not be.

HARDY Heaths are assuredly an inexcusably neglected race of plants. They have not, it is true, the gracious if somewhat exotic dignity of the Lily. They lack the delightful shadings of the Queen of Flowers or the now fashionable Iris. So might it be said of our grey cathedrals, that they are wanting in the warm colour of those of more favoured climes. Just as, to many minds, the rugged strength of the Northern Gothic makes appeal, so should our heathery uplands work upon our imaginations and "Strong within us stir the Viking's blood!" If then the family which we associate so particularly with wind-swept open spaces makes a comparatively small appeal in our gardens, it is probably because they are often unhappily placed. These plants are, in gardens, too seldom seen in a suitable environment. Erica carnea, to take an example, makes a neat enough edging to a garden path, but let us for a while consider it in other and happier surroundings. In what a number of gardens throughout Surrey, for instance, can one find a setting of Silver Birch and Scotch Fir. Where we cannot find them, let us plant them and with their assistance form a grassy glade, its flanks adorned with Heaths of many kinds. These should be grouped boldly and artistically and so as to produce a natural effect. No attempt should be made to imitate Nature too closely. No large natural grouping was ever met with that wholly satisfied the eye from every standpoint. No grouping of man's either, it is to be feared; but at any rate, with care and forethought a good approximation can be obtained. The grassy vista may be straight or gently curving according as individual taste and situation demand, but it will in either case be irregular—now running far back among the Heaths which lie on rising ground on either side, now surrounding isolated colonies of plants.

A few rock boulders carefully and naturally disposed will give character to the scene and its monotony will be broken by clumps of the taller growing species—arborea, alpina, australis, lusitanica (codonodes), mediterranea, stricta and the hybrid form, Veitchii. Where Birch and Fir are not at home, other suitable settings can be found, witness the illustration of a heath garden in the Cotswolds. The soil of the Cotswolds is not poor and not peaty. The range is entirely under cultivation and its fields produce excellent corn and roots. In early winter such a garden has a pleasant furnished effect, very different from a herbaceous border or even the average rock garden at that season, while already great drifts of E. darleyensis (mediterranea hybrida) would be in flower. A little while and the more deeply coloured carnea and its distinct habited white form would give variety, followed by mediterranea, arborea and lusitanica, till one by one the dwarf summer-flowering sorts come into flower. E. ciliaris (Dorset Heath), and its fine stocky variety Maweana, the bright purple Scotch Heath cinerea with its beautiful

HEATHS IN A SUITABLE SETTING. A COTSWOLD GARDEN PICTURE FULL OF INTEREST AND BEAUTY THE YEAR THROUGH.

white and red forms, and the cross-leaved Heath (tetralix), with its varieties, come in early summer, along with the nearly related Irish Heaths (Daböecia). The many varieties of Ling (Calluna vulgaris) the Cornish Heath (E. vagans), and E. stricta will carry on the flowering season till October, by a giant boulder the deep green mossy cushions of the variety Foxii are particularly welcome. This is not a free-flowering sort, nor is its flower particularly beautiful.

The ruddy purple and white flowers of Daböecia polifolia give pleasure for many months. There

ANOTHER PLEASING PICTURE. IRISH HEATHS (DABÖECIA POLIFOLIA ALBA) IN THE FOREGROUND.

which time darleyensis will be smothered with buds once more.

Some of the varieties of Dorset Heath are especially beautiful. The form coccinea has the brightest colouring of any hardy Heath in commerce; rosy-scarlet best describes it. A dull crimson form, without a hint of purple is listed as sanguinea or atrosanguinea, while a very rich and deep purple form is called atropurpurea. There are several other varieties, including a pure white form. Of the Cross-leaved Heath, the most noteworthy varieties are alba, pure white; alba mollis, with white flowers and downy silvery foliage, and Mackayana, with greyish foliage and rosy flowers tipped white. The typical plant of the strong-growing Cornish Heath (E vagans) is perhaps better than any of its varieties, unless it be the white form. Grandiflora is larger in all its parts, but of a more straggling habit, and the same may be said of the rather deeper coloured variety rubra.

The distinct and characteristic habit of the Ling (Calluna vulgaris) always adds variety to the picture, and if the flowers of all its varieties expand in late summer, the charmingly coloured foliage of the varieties cuprea, aurea and alba aurea adds life and brightness the year through. The bright green leafage of the white-flowered C. v. Serlei is always charming. This is the indispensable white form, but the dwarf alba rigida is very useful. The variety Alporti with almost black foliage and crimson flowers is noteworthy, while the double form, flore pleno, is, unlike many double flowers, really beautiful. Very distinct in habit is the rather dwarf tenuis with purple flowers; while minima and pygmæa, being dwarf, compact and distinct in habit, help to give [illegible] Planted so as to overrun is an interesting, if not specially beautiful, form which produces both purple and white and also harlequin flowers on the same plant.

More spreading in habit with broader, softer leaves and much larger, more globular flowers is the white form called globosa alba, and though these are unfortunately not often met with in commerce, there are rosy mauve and palest lilac forms most beautiful of all and quite distinct in colouring among hardy Heaths.

Let no one make a fetish of a name. Because we call our garden a Heath garden do not let us exclude such so-called American plants as may help complete the picture. Some of the alpine Rhododendrons, for instance, and most of the genera formerly called Andromeda, especially Pieris floribunda; the "Pepper-tree" (Clethra alnifolia); the Pernettyas, with their beautiful many coloured berries; the Vacciniums, not forgetting the common Whortleberry, (V. Myrtillus), and even, where space permits, a few bold clumps of Berberis stenophylla or Darwinii and cream and golden Brooms.

Heaths may be grown in any soil not containing free lime: indeed, contrary to the general belief, they grow more compactly and are generally more satisfactory as garden plants where the soil is a light to medium non-calcareous loam than where the root-run is largely peat.

Where space cannot be found for a separate Heath garden, the rock garden may be allowed to die away into a small expanse of heathery moorland with very satisfactory results. Another very suitable place for Heaths is in bold groups in the shrubberies, such as often define an entrance drive. Where such a shrubbery is boldly and artistically grouped throughout, the Heaths look particularly charming

All Heaths may be propagated by cuttings, an inch or so long, of the half ripened wood, inserted in pots in sandy, peaty soil. It is best not to attempt the removal of the bottom leaves, as experience shows that they root better as they are, and it is, anyway, a troublesome operation. The newly rooted plants are very tiny and take time to make sizeable specimens, but by means of cuttings, seeds or layers the tree Heaths must be propagated. The seeds are very fine and so require careful handling, but they germinate readily. Unfortunately they take, like cuttings, a considerable period to make plants of any size. Layering, of course, pre-supposes stock plants. The dwarf varieties should always be planted deeply, burying any unsightly stems. They will then when next lifted be found to have formed roots right up to ground level, and each one can readily be divided up into a number of rooted plants to be replanted deeply as before. This is the readiest, and for the amateur the best, way of increasing stock. Hardy Heaths are accommodating plants and can be moved successfully right through the winter, but if it is proposed to divide them when replanting, the work should be done while the ground retains its warmth and not later than September in any case.

Garden Notes from a Western Seaboard

By SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

NOTES on flowering shrubs and herbs must prove of indifferent service to amateurs if the writer of them mentions only those plants which have pleased him by their beauty and behaviour. To be of practical use such notes should render account of species which have proved undesirable. This is especially needful at the present time, when hundreds of new species are pouring in from the Far East, many of them being only of botanical interest, or, if ornamental, of inferior merit to plants already in cultivation. For instance, Viburnum Carlesi, introduced from Corea in 1885, has proved such a fragrant, free-flowering treasure that one is disposed to expect much from other Asiatic species of that genus; but V. crassifolium, I think from Western China, having flowered here two years in succession, is destined for the rubbish-heap, having no decorative merit whatever. Resembling the common Laurustinus in its foliage, but with leaves of greater substance, and in the arrangement of the flowers in umbels, these flowers are minute and inconspicuous, opening in July when there is such wealth of blossom around. Wherefore, out it goes. Not much more desirable, in my judgment, is Viburnum rhytidophyllum. True, its foliage is fairly handsome in winter; but where choice species of Rhododendron can be grown that is not of much importance, and the flowers are no better than those of the common Elder. We have treated it ruthlessly here, availing ourselves of its rapid growth as a shelter plant for better things in their youth, and ousting it so soon as these were of a stature to defend themselves.

It is not amiss to grow shrubs of inferior merit that may be sacrificed without a pang after serving as nurses. Thereby one is spared many an excruciating problem in deciding which of a pair of conflicting treasures is to be sacrificed, for in these days of scant and costly labour transplanting of large shrubs is [illegible]

Only last month I hardened my heart and condemned Davidia involucrata, over 20ft. high, to be grubbed out for the relief of a brace of Rhododendron arboreum over which it had flung its arms. The execution brought into view a fine specimen of Thamnocalamus Falconeri,

THE UNIVERSALLY ADMIRED PRIMULA ROSEA
To which the Rodgersias afford welcome shade.

RODGERSIA PINNATA.
A novel use for these handsome plants is suggested in Sir Herbert Maxwell's notes.

taller than the Davidia. I have not heard of Davidia flowering in Scotland, although two of the trees here are quite as large as those which I have seen flowering in Southern England.

I owe gratitude to the Rev. C. O. S. Hatton for some plants of Lavatera Olbia which he sent me two years ago from Hinton Vicarage garden. Beginning to flower on June 24, they have made a beautiful object of a stony bank, growing over 5ft. high with spreading branches wreathed with large, rose pink blossoms, which last well in water when cut—Prince of the hardy Mallows.

Among herbaceous subjects to be written off the choice list, Salvia nudiflora, a recent introduction, may be noted as producing foliage out of due proportion to its sparse flowers. On the other hand, the Siberian Nepeta macrantha furnishes a fine mass of bloom of a similar violet tint to that which the other gives so grudgingly.

No plant excels, very few equal, the grace of Dierama (Sparaxis) pulcherrima. Drought has had no ill effect upon it, and now that wind and rain have come it is waving its long wands set with bells varying in colour from white to crimson. The only way to propagate this South African is from seed, which it produces liberally and which germinates surely, for mature plants will not suffer removal. Accidentally, I discovered how long these seeds retain their vitality. Sir Frederick Moore having sent me seed saved from a specially richly coloured variety, the packet got adrift among some papers, where it lay for three years. When it turned up again I thought it vain to attempt putting it to use, but did so on the off chance. To my surprise every seed germinated, and the offspring are now in joint occupation with Larkspurs of a large round bed with a bush of the delightful Genista ætnensis in the centre.

The extraordinary heat of the present summer has accelerated the flowering of Mutisia decurrens, an annual treat which I should be sorry to miss, but which does not usually happen until the Dog Days. Like so many other Chilian plants, this handsome Composite takes kindly to west coast conditions—once you have got it established. But that preliminary is attended with uncertainty. Mutisia is a queer subject; queer as a member of the only genus of Composites that climbs by tendrils, and queer in its capricious behaviour. It has a wanton habit of sending up suckers at irregular distances from the main stem, which often dies down after planting. Mr. L. B. Stewart, plant propagator at the Edinburgh Botanic Garden, has given timely advice about the protection of these suckers. They should not be removed for propagating stock, for that may entail loss of the entire plant, and he explained how cuttings may be successfully handled (Notes from the Edinburgh Botanic Garden, November, 1913). Once established, Mutisia asks only to be let alone, and is happiest threading through a bush against a wall, when it will rise to a height of 8ft. The great blossoms, 5ins. from tip to tip of the rays, are of a peculiarly luminous orange; one only finds out what an elusive hue this is when an attempt is made to reproduce it in paint. It is, however, very faithfully rendered in a coloured plate in THE GARDEN for December 22, 1883, from a painting, I fancy, by the late Mr. Moon. Mutisia ilicifolia is the only other species we grow here, very inferior in brilliance to M. decurrens, the flowers being of a washy pink hue. Is there any other species of this interesting genus now cultivated in this country? M. grandiflora, described as having bright red flowers, sounds like a desirable acquisition.

Mr. Holms' enquiry for advice in the treatment of Primula rosea has elicited a recipe from Mr. Arnott (page 383). Let me offer another. We have here in a border shaded from the south a large patch of this Primrose, which receives a top-dressing of pulverised peat and loam from time to time. This, however, would not suffice to protect the plants from parching in a hot summer, so in front of the colony has been set a clump of Rodgersia tabularis. This makes no appearance above ground till the bloom is off the Primrose, and then the great round leaves of the Rodgersia rise and spread their umbrellas over their humble neighbour. This arrangement has been in force for several seasons, and has proved thoroughly effective.

The Treatment of the Medium-Sized Suburban Garden

In the garden it is desirable to secure the greatest possible appearance of spaciousness without sacrificing beauty. It is equally desirable to attain the maximum of variety in planting and arrangement without weakening the all important unity and repose of the treatment as a whole. The two objects are seldom altogether realised in the same garden, but they are not incompatible.

IT is fairly self-evident that a rectangular strip of land much longer than its width is not ideal for laying out. It is equally self-evident that the vast majority of our gardens are of this unsatisfactory and unsatisfying shape. Remains to consider how to treat them so that we have restful and beautiful and if need be, useful grounds. The hum-drum is never restful, neither is the bizarre. Garden beauty depends upon two things—design and culture.

Improperly arranged, the most pleasing flowers will make no appeal. On the other hand, no display of brick and stone and paving, no subtle arrangement of form can alone make the garden of our desires. Plants which are unhealthy cannot be beautiful. It is useless for the suburban gardener to attempt to cultivate plants indiscriminately, simply because he admires them. He should first discover whether under such cultivation as he will be able to afford them, they will flourish. The designs we are now about to discuss are, it is scarcely necessary to point out, intended rather as sign-posts to the book of knowledge, than as figures in a copybook for slavish imitation. If there be any feature in either of them which would be unsuited to any particular garden, it should ruthlessly be cut out. It is useless to build a pergola if it cannot satisfactorily be draped with flower and foliage. It is ridiculous to form a rose garden unless Roses can be persuaded to make themselves at home.

The site taken as an example is the one for which entrance-front designs were given in the issue dated July 30 last. It is possible in such a garden to accommodate a full-sized tennis court. It has not been thought necessary to show this as its arrangement would be dictated by the width

of ground at disposal. Tennis courts are never, during the playing season, things of beauty, but where one is regarded as necessary, some sacrifice of beauty must of course be made.

The treatment indicated in Fig. 1 is intended to make the garden as interesting as possible, while giving as great an appearance of space as possible within the limits laid down. It is so arranged that while the main plantings are given turf settings, it is possible in showery weather to complete the circuit of the gardens dry-shod, an important point in gardens of limited extent.

The scheme as shown is especially intended for a flat site. Such sites, as most readers will be aware, are not easy to treat satisfactorily. It is intended in a future issue to give suggestions for laying out ground with pronounced slope either from back to front or *vice versa*.

Dealing now with its features seriatim, and starting from the paving on the garden front, of which the disposition speaks for itself, on the left hand boundary is a pergola of a size suitably proportioned to that of the garden. This should be paved. Immediately before us, in the grassy vista leading to the bottom of the garden is a circular lily tank, its "self-faced" stone coping level with the turf. To the right, backed by a hedge which screens the service path, is a herbaceous border which, returning, and balanced by a short piece from the pergola on our left, defines the line of vista. This border would be more restful and pleasing if confined to shades of colour not too dazzling and liberally interspersed with grey and grey-green foliage. The first section of the pergola itself might well be planted with Vines, Wistarias and Clematises, indeed, with any climbers of clear, soft colouring, not excluding Roses.

Beyond this quiet little pool garden, a paved path is shown, which would be at once pleasing and practical. It makes it possible when the grass is wet for one to admire the rose beds from various angles, and it gives the gardener and his barrow access to the pergola and that side of the garden without passing immediately in front of the house windows. Beyond this path lies a small rose garden, not unpleasantly disposed, its central bed a splash of colour in the otherwise green vista. This garden is defined on the right by a hedge, on the left by the pergola, here wholly or mainly planted with rambler Roses, on the side nearest to us by pillar Roses, and on the further side by planting, which might well include on the side next the rose garden some of the beautiful Rose species or wilder growing Roses, such, for example, as Conrad F. Meyer and Gruss an Teplitz.

Whatever such modification may be decided upon, the main planting of the little garden we are now approaching is to be Rhododendrons, with towards the front here and there groups of the brightly coloured Azalea mollis. The appearance of a miniature glade is the effect at which to aim in this part of the scheme, and the better to achieve this, the turf vista in the centre is slightly dished and the beds somewhat raised on either hand. A few Silver Birches carefully disposed will largely help towards the desired appearance. Keeping still the same glade effect, the character of the planting now changes gradually—a sudden break in the planting would destroy the effect—and flowering shrubs, such as Berberises, Brooms, Exochordas, Escallonias, Syringa persica and Spiræas, become the principal feature, with moderately large groups of prostrate and semi-prostrate shrubs, such as Cotoneasters, especially horizontalis, and Junipers of sorts, with here and there a large outcropping stone, preparing the mind for the rock lined paths which lie on either hand.

The planting of the little triangular beds which break the entrance to these rockery paths needs careful handling. One or perhaps two fairly large boulders will give character to the edges facing the vista, and from this the soil should slope backwards to the level of the greensward. This treatment gives a suggestion of a natural outcrop. The rock lined paths themselves should be carried out to resemble, as nearly as human skill can make them, miniature passes between the hills. If good stone be used in blocks not too small and the constructor bring imagination to bear upon the work, most pleasing results can be obtained and situations improvised suitable for a wide range of plants. The apparent height of the mounds on either side can be greatly increased by suitable, rather erect planting on their summits. From the foot of the rocky ledges, which form a natural-looking path, stepping stones laid in the turf form a dry way to the pavilion or summer-house at the one end and a narrow paved path continuing the line of the pergola at the other. Some of the planting which flanks the pavilion should be fairly substantial; indeed, Austrian Pines or Douglas Firs could be used in the background with advantage, though Scotch Firs would associate better with the Silver Birches, which, if the soil suit them, we should be unwise to neglect.

It may be well briefly to indicate methods of abridging, shall we say, the design. The reader's garden may probably not be so long as the one shown, or he may be utilitarian enough to wish to reserve a portion for fruit and vegetables. The little pool garden could be foreshortened and one of different shape substituted, or a figure or sundial might take its place. The rose garden could, if desired, be abolished, and the returned end of the herbaceous border as shown be balanced by a similar feature beyond the transverse path, this second border having for background the rhododendron garden. Again, the rhododendron garden or the shrub and rock garden could be dispensed with, or the two might be amalgamated into one feature. Unless space be very limited and Roses indispensable, do not have a rose garden immediately adjacent to the house.

The design depicted in Fig. 2, also for a flat garden, depicts, *inter alia*, a method of arranging a greenhouse so that it shall be within easy reach of the house and a possible conservatory and not too far from the fuel supply, without being an ever-present eyesore. No pergola is incorporated in this scheme and it is not possible to see the garden dry-shod in damp weather without retracing one's footsteps. These drawbacks notwithstanding, such a garden would have many desirable features and it would be, considered as a *tout ensemble*, well balanced and pleasing.

In lieu of the open pool-garden of the first design, we have here a Dutch garden, its beds and borders outlined with Box edging. Owing to the complexity of their patterned paving and the generally quaint effect aimed at, Dutch gardens are better small and they are for that reason peculiarly suitable for the *multum in parvo* garden. The breadth of effect so desirable on the house front is here attained by keeping the planting, especially in the central beds, quite low. One thinks of such a garden as bedded out with Wallflowers and Forget-me-nots, interplanted spring-flowering bulbs and afterwards with tuberous or semperflorens Begonias, Heliotropes, Geraniums or other reasonably dwarf plants. The arrangement of greenhouse, stokehold and frame ground speaks for itself. It is only necessary to point out that the greenhouse shown has two doors under the small cross gables instead of at the ends as is more usual

The hedges which enclose the greenhouse are above the sight line—6ft. or so—except on the side furthest from the house where the hedge is only 3ft. high. The hedge surrounding the frame ground is everywhere 6ft. The greenhouse left behind, we enter a small rose garden through a screen of rambler roses on poles, which, continued on either side of the garden serve to define it. A pole or two in the planting on the other side will serve to maintain the balance and here an average depth of 6ft. of the border may well be devoted to Rose

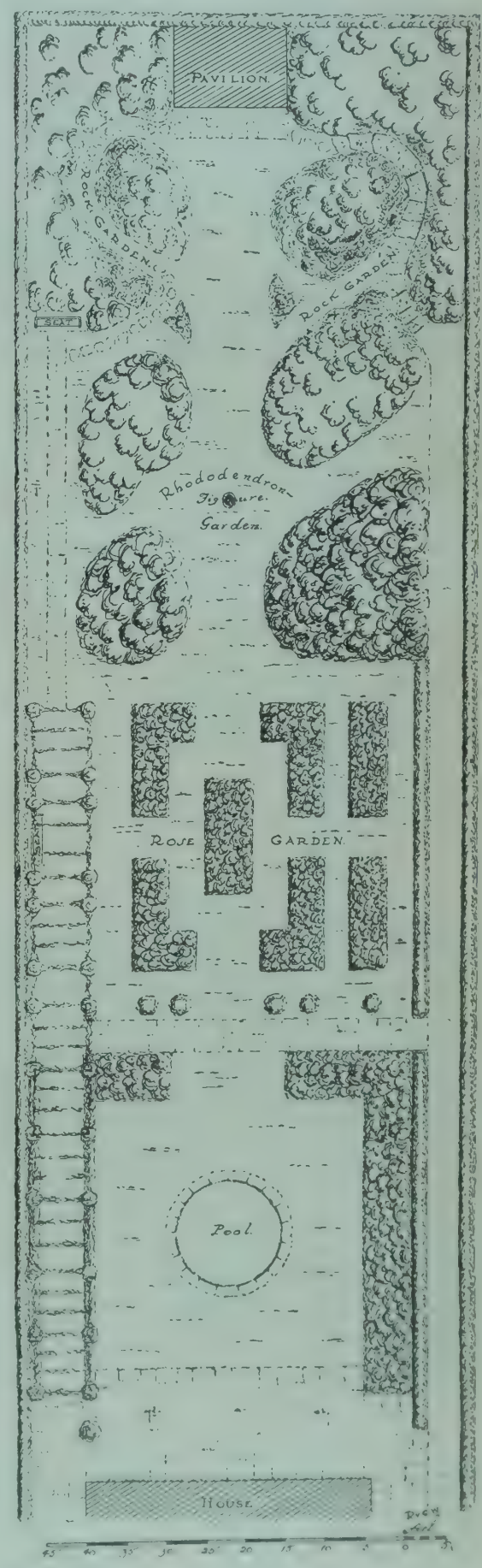

FIG. 1.—*The foreground, whilst severely formal in outline, is intended to be planted informally and the resultant contrast would be very pleasing. A rose garden, formal in conception, leads to rhododendron, flowering shrub and alpine gardens in ordered but informal array.*

species and such varieties as are suitable for surround planting. Alister Stella Gray, Irish Elegance and Mme. Eugène Resal come to mind in this connection, while on the poles, Carmine Pillar, Gruss an Teplitz and Reine Olga de Wurtembourg, to name but three, would be in keeping. The character of the more informal planting beyond the rose garden might be largely modified to suit individual tastes. It might consist mainly of Rhododendrons with larger shrubs in the background in which case the planting in the small, more or less triangular, beds might well be chiefly Azaleas; or Rhododendrons might be largely relieved with other American plants and Heaths, in which case Heaths would fill the small beds; or a variety of deciduous and evergreen flowering shrubs might be used, with various prostrate shrubs in the triangular beds. The rockery has, in this design, expanded until it might almost be called a rock garden and space has been found for a little water, always a pleasing foil to alpine plants, but this could, of course, be omitted should it present any difficulty either as regards supply or disposal. In both designs, hedges have to some extent been treated as features in themselves. To be a really pleasing object a hedge must be composed of suitable hedging plants and kept closely and accurately clipped. For the purpose now in mind, Yew provides the best ultimate effect, Privet the worst. Holly is ornamental, though its contrasting high-lights and shadows are apt to be distracting, but a well-clipped thorn hedge is not to be despised, if Thorn and Holly so much the better. Laurel hedges succeed on some soils, but they have an unfortunate tendency to die away in patches just when the hedge is nearing perfection.

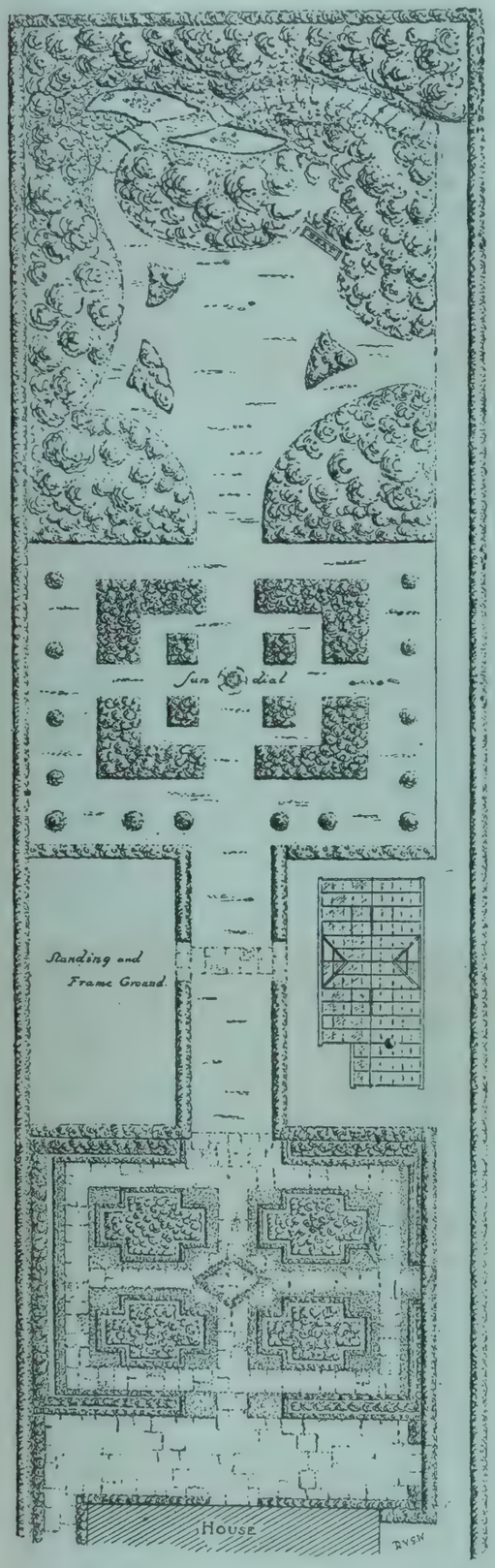

FIG. 2.—*The little Dutch garden would be entirely formal both in design and planting, but redeemed from any severity by the quaintness of its arrangement and materials. The position of the greenhouse would be convenient. Lavishly planted with mauve Violas under the Roses, the little rose garden would be a delight for many months.*

ALPINE PLANTS AT HOME

Further Notes of an Amateur Abroad

A DAY (August 16) spent on the ground at the foot of the buttresses on the north side of the Matterhorn, at the highest point about 8,500ft., introduced me to a flower association not unlike a restricted part of North-West Yorks and with rocks about which looked very like the "sugar" limestone among which the plants occur in our English alpine locality. It was truly delightful to find Dryas octopetala with its lovely white Buttercup-like flowers (the leaves of the alpine plant were broader and larger than the North-West Yorks plants or the plant I have seen from Ireland, which is, I believe, known as var. minor; the latter form loses its leaves entirely during the winter, at least, it does with me, while the broader leaved one retains them throughout the year although they change colour somewhat in the winter), associated with the small yellow-flowering Helianthemum canum or a plant very like it, the same two plants occurring together in the Yorks locality. The stony ground about was overlaid in places with such shrubby plants as Globularia cordifolia, Azalea procumbens and the beautiful Reticulata Willow, the three best rare British shrubs. Pretty lilac-flowered Thlaspi rotundifolium, was mostly in seed in a hot position, and near about was Senecio incanus in plenty, with its rosettes of grey pinnate leaves and bright yellow clustered flower heads, a plant well worth having on the "moraine" both for its foliage and its late flowering. It is a very different plant to what I received from a firm earlier in the season as this species, which had grey undivided leaves and never settled down, just "miffed" away without flowering; half a dozen seedlings taken later in another Valais locality seem quite at home in my garden at present, planted in moraine. Campanula pusilla was seen both here and elsewhere, but very often in somewhat shady places by the path sides, frequently in the woods; a fine flowering plant in the open was of the pale silvery blue form known as var. Miss Willmott; generally the plants seen were not flowering anything like so freely as they do in the garden. Campanula barbata, past its best in the lower parts, still showed up its flowers at the higher altitudes which it reaches and was noticed in flower in all the districts visited, with, very occasionally, the lovely white-flowering form. A Campanula which I have not determined, with large single bells on short stalks, possibly of the rotundifolia type, with both pale and dark blue flowers, was very effective, but the find of the day was Campanula cenisia, the dainty delicate bells of which I discerned peeping out from under the stones of a "stony slide" from one of the buttresses of the Matterhorn which towered above; on realising the position it revelled in, quite a number of its flowering plants were located. The difficulty of keeping this plant in our "moraines" is understandable when the peculiarities of its habitats are analysed. The steep stony slope will be covered with snow for the greater part of the year. When this melts the plants for a time will probably be under water and the whole of the time there will be water percolating through from the snow above. The delicate roots run down into fine limy grit, well soaked with moisture, the plants pushing out from under some larger overhanging stone; if one could direct, in the growing season, a little continuous flow of water under the slope of a "moraine" filled to a good depth with fine grit, with a layer of stone placed over the roots, it might possibly flourish. A small plant I once had, planted in the autumn, never survived the winter, the position and drainage probably not being to its liking. Of course, there is one other factor to be taken into account and that is the "slug" pest, which we unfortunately have and which, so far as my observations went, did not seem to trouble the plants of the High Alps. Seed was obtained from some of the plants and if successful in raising it I intend to try to make it at home. An exquisite Cerastium, C. latifolium, evidently at home in similar shingly debris was associated with it, with a striking deep red flowering Pedicularis, some species of Oxytropis, Linaria alpina, etc., but flowers were only dotted about sparingly in the stony "screes."

Before reaching the higher ground some steep torrent beds were beautiful with masses of Epilobium Fleischeri and Saxifraga aizoides, with the always beautiful Grass of Parnassus, which was very plentiful in many places, a reminder of many beautiful parts of the Yorkshire dales, where it is frequently abundant. Euphorbia Cyparissias, that awful garden weed, was plentiful in dry, stony places, and, in addition to Gentiana verna, Viola calcarata was noticed, but evidently about over, and signs of Primula farinosa having been abundant but now in seed.

The red-berried Elder was seen both at Zermatt, in the valley below and also in the Saas Thal; also Berberis stenophylla finely covered with berries just turning red. The woods around Zermatt are noted for the beautiful "Arolla" Pines, Pinus Cembra. In the Pine woods both here and in other districts visited what I took to be a woodpecker was very noticeable, a dark-plumaged bird with a tail which when "fanned" out, as it was usually when disturbed, showed a white bar across the middle of the tail feathers. They appeared to be very busy among the Fir cones, possibly obtaining grubs out of them, as some of the cones that were lying about were

very much picked out. It had a harsh note very similar to a jay and may possibly have been the three-toed woodpecker, a European species which never seems to have occurred in England. Bird life was much more evident on this visit than was the case some twenty years ago when I spent some days in the Rhone Valley and scarcely noticed a bird of any description. Wheatears were seen very much the same as we see them on our own hill country. In one locality close up to the glaciers a fine flock of snow finches was observed, and the alpine swift was hawking above in the Saas Thal. No eagles were seen, although a large falcon was noticed in the Saas Thal and a pair of buzzards on the mountains above Caux. While I did not see the marmot, which frequents the higher rocky parts, I frequently heard the "whistling" note of this animal about the Fee Glacier above Saas Fee.

It was delightful to have so many beautiful butterflies, which were especially noticeable around Zermatt and in the valley of the Viege, among the varieties seen being the Apollo, various Fritillaries, Clouded Yellow, Coppers, Blues, the Red Admiral and in several places the small Tortoiseshell was frequently seen — on one occasion probably 8,oooft. up on the way up to the "Weisoneiss" from the Saas Valley. It was interesting to observe the numbers of Blues, Coppers, etc., that congregated on the Thyme or other flowers, especially in some hot sunny corner where spring or underground water was oozing out, which many of the insects seemed to be busy imbibing as well as the honey from the flowers.

Other interesting flowers seen, not previously mentioned were, among the Gentians, Gentiana bavarica—This lovely Gentian seemed to be most frequent not far from the glacier level in ground which was saturated with the moisture trickling down from the melting ice; G. utriculosa —A single specimen about Mattmark Lake; G. nivalis—I never realised what a lovely little late-flowering species this was before seeing it in numbers with its bright blue flowers fully opened out in a dry gutter bed of a stony pasture above Chandolin; G. ciliata—What a gem this late-flowering species is! The glorious velvety blue fringed petals, not the verna blue. It is difficult to describe the colour, possibly verna blue with a touch of purple in it. First noticed at Zermatt quite dwarf, about 3ins. high, also similar on the way down to Stalden and up the Saas Thal, but on the way up to Rochu-de-Nay, above Lake Geneva, the flower-spikes were fully 9ins. high. Is it a difficult species to grow? as, if not, it seems strange that it is never recommended for or seen in our moraine gardens. It would indeed be an acquisition if one could have it flowering in August, especially so if it maintained the dwarf form as seen about Zermatt.

Some dwarf flowers of Gentiana campestris. in the higher pastures were quite pretty. G. asclepiadea is interesting as seen alongside a path up from Saas Grand to Saas Fee, probably in the same position as mentioned by Judge Wills in his book over sixty years ago.

Of the Saxifrages, S. rotundifolia, in shaded woods in the valleys, and the dainty S. stellaris, a species that inhabits the alpine portion of North-West Yorks, were frequently seen in flower. S. cuneifolia, is one of the commonest woodland species. S. aizoides was plentiful in suitable places in all the districts visited; a reddish orange flowering variety was seen alongside the pass by the Allalin glacier. S. oppositifolia was common in many places, but not in flower; some of the steep mountain sides around Saas Fee must be fine when this and the masses of Dryas octopetala are in blossom

A PALE FORM OF THE BEAUTIFUL CAMPANULA PUSILLA.

Ranunculus glacialis was seen close up to the glaciers on both sides of the Saas Thal in stony, gritty ground with glacier water flowing over or through it. The first flowers seen had been somewhat spoilt by the wet mist that had enveloped the locality the previous day, but it was seen in all its beauty about 9,oooft. up, again in glacier saturated ground just outside the Weismeiss Inn, one of the high places open only in the short summer season, used by mountaineers taking the "passes." I once tried a small plant in the moraine, but it disappeared, as such plants usually do. It will be very difficult to reproduce the conditions in which it usually revels. R. alpestris, with its chaste white flowers, was sparingly seen in a somewhat lower and sheltered locality; and the interesting R. pyrenæus, with its lanceolate leaves and dainty white flowers, in a damp pasture by Mattmark lake. By the track up to Mattmark, Viola biflora with its bright green leaves and yellow flowers was seen, and by the side of the lake Sedum Rhodiola, an interesting species that is plentiful in an isolated locality in Westmorland near the Yorkshire boundary. The very local Senecio uniflora, another desirable late-flowering moraine plant with grey leaves, was plentiful on some of the mountain sides in Saas Thal. (These seedlings, planted on my moraine on my return, were attacked by slugs within a week.) Some steep pastures above Saas Grand provided the only Edelweiss in plenty seen during my visit; it was associated with some particularly beautiful deep blue Aster alpinus flowers. Quite one of the gems of the Saas Thal was Campanula excisa, which was growing

THE LOVELY DRYAS OCTOPETALA, IN ITS NATIVE "ALPINE MOUNTAINS COLD."

freely in stony places, often in the beds of torrents, in positions where the plants must frequently be under water. Masses of it in flower were very beautiful, a group of plants close by a large boulder being especially so, with their quaint flower bells double the usual size. I have had this plant in deep grit in my garden for some years and it does quite well, providing you can keep the slugs off it.

An interesting and quite pretty Wahlenbergia-like Campanula (something like W. vincæflora), which I have not been able to determine, was seen sparingly beside the mule track along the Saas Valley near Stalden; it had pale blue, wide open bells with white or whitish base to the petals, on long pendent stems. What I took to be C. rotundifolia in the meadows in the same district, and also in Val D'Anniveiss, had bells somewhat wider open than ours and white or whitish basis to the petals. Before bringing my notes to a close mention must be made of the charming and always beautiful Myosotis alpestris, which was abundant in places. What a delightful flower it would be if it could only be kept dwarf and compact in our moraines! None of the dark-flowering Rupicola was seen. T. A. L.

THE CULTIVATION OF "CATCH-CROPS" FOR GREEN MANURING

GREEN manuring is best explained by saying that "it is the operation of growing a portion or the whole of the manure that one requires to dig into one's garden during the winter." This growing of one's own manure is comparatively little practised, having so far found small favour. Owing, however, to the greatly increased scarcity of animal manure and to ever growing transport difficulties, this method should be very largely adopted by gardeners of all classes during the coming autumn and winter.

Preferably, seed for this purpose should either be of the Cabbage tribe or of the natural order, Leguminosæ. There are several crops, however, which are grown for green manuring purposes, one of the most important being Tares or Vetches, and the other agricultural Mustard. These have both the advantages of being cheap and easily obtained, and it is difficult to say which is the better.

Crops for green manuring are sown in August and September. Tares, which require a longer period for their growth, should certainly be got into the ground during August, but of agricultural Mustard quite a respectable crop of green growth can be obtained if sowing is postponed even until the last week in September. This gives an additional month for the ground to be occupied with food crops—an important matter these days. Generally speaking the end of September is as late as it is useful to sow crops for this purpose. The writer works in the North of England, or rather in the North Midlands, in a very exposed situation, and he does not find that these crops, sown after about the end of September, produce sufficient growth to be really valuable. Gardeners in the South of England, however, may probably find that it is possible to get a reasonable amount of green growth even if they do not sow Mustard until well into October.

As the term implies, green manuring consists not only of growing one's own manure, but by digging or ploughing it in in a green state. This operation must not be confused with that known as vegetable manuring, which consists of digging in rotted, or semi-rotted vegetable matter into vacant ground any time during the late winter or even the early spring. The green manuring crops are dug in in a fresh green state, and there is no doubt they benefit the land to a far greater extent so dug in than if they were left to decompose in a manure pit for several months beforehand. Dug in as they are, in a fresh state, it must be admitted that they have not as great an immediate fertilising value as if they were rotted, and thus it is customary to incorporate with the green crop a small portion of animal or rotted vegetable manure to act as a starter.

Having cleared a piece of ground in the ordinary course of harvesting, you will find it pays to bestow on the land a little attention before actually sowing the green-manuring crop. It is preferable lightly to fork over such ground, to break up all lumps and form a tilth and then to rake it down to an even surface to facilitate sowing. Should the ground be very light it will be advisable to roll it, and little success need be expected on such land unless a good watering is given immediately prior to sowing.

As regard the actual sowing, opinions differ as to whether it is better to sow broadcast or in drills. It probably makes little difference either way, except as to the amount of seed used. In drill sowing much less seed is usually applied, as a 6in. space at least is left between each drill. It is wise, however, to be generous in the amount of seed used, but it is difficult to say exactly the amount that will be required as the gardener ought always to use his judgment. Much depends upon soils. Generally speaking, a much better percentage of germination is obtained upon light soils than on heavy ones. It is a safe rule, however, to assume that you have not sown thickly enough if you are unable to discern the seed on the surface of the soil.

If a supply of burnt wood ashes is available, do not fail to scatter a small quantity over the surface immediately after sowing. The seed, if broadcasted, is then raked in, or the drills are filled in where the latter method is adopted, and some kind of bird scarer should be put on the land, otherwise the birds may rob the ground of most of the seed.

Is it necessary, one wonders, to remind readers that Mustard should not be sown on ground affected with club root? In that case Vetches, or Lupines are preferable. A point often overlooked is that if Mustard is dug in just when it is coming into flower it is an effective deterrent to wire worms.

The crop should be left growing until the last moment, when the ground is required for digging, and then the surface of as much ground as can be dug that day should be skimmed over to cut the weeds and green manure and spread it on the surface. A little half-rotted manure should then be scattered over it as already mentioned, and the material be trenched in. If single digging is practised, care should be taken to bury the green manure as deeply as possible. E. T. Ellis.

FORTHCOMING EVENTS

August 17.—Shrewsbury Floral Fête (two days).

August 23.—Royal Horticultural Society's Fortnightly Meeting.

August 25.—Dundee Horticultural Society's Annual Exhibition (three days).

ONIONS FOR AUTUMN SOWING

For use early in the season before those from spring-sown seeds are ready, these have great value and find a hearty welcome in the kitchen. Now is the time to make a start and here follow a few practical hints which will go to ensure success

THERE is a clearly defined group of varieties which has been earmarked for summer sowing for generations. The favoured components are the Roccas and Tripolis, both in variety, with the handsome, silvery skinned Queen. They enjoy the reputation of being exceptionally hardy, of bulbing regularly, of good quality and of non-bolting. In recent years Mr. Beckett has provided us with the magnificent Autumn Triumph, which has all the good points specified in superlative degree.

Frankly, with the exception of the last named, I should not grow any member of the so-called autumn group in my garden for the simple, all-satisfying reason that much superior results can be achieved by adherence to one of the many varieties usually chosen for sowing early in the year. This conclusion has been arrived at by growing the several varieties of both groups side by side under identical conditions. Save for peculiar happenings for which no acceptable, logical reason can be given, all results have been satisfactory, but the most profitable crops have come from fine strains of Ailsa Craig and Up-to-date. Although I have no tangible reason for it, my preference is for the former, notwithstanding the fact that over a series of years there has been no measurable difference in the weight of yield between the two.

There is nothing to choose in hardiness, certainty of bulbing, quality or propensity to bolting between the spring and autumn groups, but the former has never failed to lead the way in weight of crop and in appearance.

Autumn-sown Onions have one immense advantage over spring-sown crops, and as far as my own garden is concerned they have never demonstrated it more emphatically than this season—they are not subject to attacks of the devastating onion fly. It is not suggested that a loss from this cause never occurs, but that the liability is negligible in comparison with spring-sown beds. If there were no other reason this would be ample justification for the inclusion of autumn-sown Onions in the cropping of every garden.

Provided that the position is open to all the light and fresh air, it is not of real moment where the seeds are sown. The ground must be deeply and thoroughly dug, it should be in good heart without the necessity of adding large quantities of manure, and it must be firm. Because it is the general, and excellent, custom to transplant these Onions, growers are prone to excessively thick sowing, proceeding under the assumption that since they are to be moved crowding cannot be prejudicial. This somewhat specious argument cannot be supported. The seed distribution must be thin and the removal of youngsters for consumption green will effect the requisite thinning and leave the individuals to grow slowly and very hardily until removal must be done to a properly prepared bed of good, deep soil in the spring. The drills ought not to be not less than 10ins. asunder, about half an inch deep, and after the seeds are covered tread firmly and evenly along the lines. W. H. Lodge.

CORRESPONDENCE

THE "FRONT GARDEN."

THE designs you publish for the treatment of the "front garden" are probably admirable from the point of view of those who like to lay out their gardens with square and line. There are, however, I am thankful to say, many thousands of people who like their gardens to look as natural as their immediate surroundings will permit. Your valuable paper caters for all classes of readers. Would not it be possible to publish an article and designs treating this difficult subject from the viewpoint of readers to whom formality in the garden is anathema? The writer should be a gardener, not an architect! There has been a steady improvement for several decades towards a more natural arrangement of our gardens and it will be a thousand pities if THE GARDEN now throws its admittedly great influence into the scale on the side of the old stilted unnatural formal garden.—H. H.

[Our correspondent has, we think, through his love of "natural" gardening, rather exaggerated its popularity and applicability. The "natural" parts of the designs in this issue may give him some assistance.—ED.]

A BEAUTIFUL BROOM.

SEVERAL years ago we picked a few seeds from a Broom, understood to be Cytisus elongatus, in a garden in Perthshire, and to-day we have a nice little plant in full bloom. It is a charming little plant, of neat, compact habit, and carrying quite a profusion of bright yellow flowers, borne on erect sprays about 6ins. long. We have failed to find any allusion to a Broom of this name in any of our books of reference, and in the article on late-flowering Brooms which appeared recently in THE GARDEN no mention was made of it. As it is a variety which is well worthy of cultivation, we would be grateful if anyone among your wide circle of readers would kindly give some information regarding it.—W. L.

[Cytisus elongatus (Waldstein), according to Mr. Bean's "Trees and Shrubs Hardy in the British Isles." is a robust form of C. Ratisbonensis with down of a more felted character, mixed with outstanding hairs. From our correspondent's description we think it unlikely that his plant is of this species. We would suggest his sending a spray to this office so that its identity may be cleared up.—ED.]

THE TOWN GARDEN OF A NORWICH READER.

THE TOWN GARDEN.

WHEN I came into possession two years ago, the rockwork seen in the distance was a heap of tins and other refuse left by the military, who had been in occupation for over four years. The house had been derelict for some years before their occupation. The photograph illustrates what has been done with a rough back yard, which had never been cultivated before, but had the saving grace of possessing a fine Copper Beech and a grand old wall. Much thought, and a great deal of hard work has produced this result. The most laborious part was excavating among brick ends, mortar, etc., to make the trench for the water. The rubbish dug out was used for the foundation of the mound in the distance which is now a charming rock garden. The trench was prepared in the usual way and with the assistance of my children the retaining walls were built; the only outside help employed was a labourer to concrete the sides and bottom. Water lilies are well established and gold fish and others thrive. The whole space is about 40ft. square, and I have planted a surround of espalier Apple trees to enclose it.—JOHN T. CORDER, *Norwich*.

SOME NOTES FROM ITALY.

MAGNOLIAS and Oleanders are the most noticeable flowering shrubs on the shores of Lake Como at the present season. Magnolia grandiflora, in tall pyramid shape, almost to the height of a forest tree, with its great white blossoms, and Oleanders, both white and rose, are now covered with flowers. The Nespoli or Loquats have clusters of their yellow fruit and the Bay trees masses of green berries. The drought afflicting the greater part of Europe has not yet been felt here, for almost every evening of late there has been a thunderstorm, accompanied by heavy rain.—RUTH BICKERSTETH, *Lenno, Lago di Como*.

A SCOTTISH HERBACEOUS BORDER.

I ENCLOSE a photograph, taken by my gardener, Mr. N. Furness, of the herbaceous border in front of the house, during the month of June. This border was entirely dug over and replanted in April,

A SATISFACTORY BORDER PICTURE.

1920, and has withstood the exceedingly dry season in a remarkable manner, showing very few signs of the drought, except as regards the annuals sown at the end of April. The soil is sandy.—ISOBEL SCOTT, *Kelso*.

AN INVITATION FROM RHEIMS.

I HAD five months of life in Paris, which I was tremendously glad to be through with and at the beginning of May returned to *mes premiers amours*, that is to say, horticulture. I have a very interesting post, but the work is exacting—garden work always is. The trees in this old garden have been much damaged by shot and shell. In the autumn I shall have to prune them drastically and plant young trees to fill the gaps. One of the saddest sights for a tree-lover is to see the avenues, orchards and forests of trees in and round Rheims, which have either been killed outright and are standing dead and stark against the sky, or wounded, mutilated and twisted by the havoc of four years' war. Reconstruction in Rheims goes on apace and most of the streets have been tidied up and are now passable. I was told recently by a Frenchman that it will take 4,500 men twenty-five years to rebuild Rheims. Here, in the Foyer Feminin, labour and funds are lacking, but we are trying to make it as bright and artistic as possible, so that the women and girls can forget that they live in ugly barracks among ruins, when they come here for instruction, amusement and rest. The Foyer is three sides of a square and is a barrack with many windows all round it. My latest idea is to have a window-box at each window and to have it always full of gay flowers. The poorer inhabitants have mostly returned to Rheims. Barrack villages have been built for them north, south, east and west of the city. In each district are two English district nurses, who, with their

matron, about half a dozen nurses at the American hospital and myself, make up the English colony. Two prizes in each district are to be given in August for the best window boxes in these barrack villages. I am going to judge them. If you or any readers of THE GARDEN ever visit Rheims, I do hope you will find your way here. The tram for St. Anne from the station stops at the gate. Next year the medical garden ought to be really interesting. I am being given many interesting subjects: Sweet Pea seeds from Cannes, Marigolds (Soucis) from Salonica and Lavender from the mountains of Alpes Maritimes. The Royal Horticultural Society set us up in vegetable seeds for this year and also gave us watering cans. How much the latter have been used in this torrid summer you can guess! I have not been able to botanise far afield this year, as the garden ties me to it, but I have seen in May in the forest of Germaine (Marne) acres and acres of Lilies of the Valley, large ones, with a delicious scent. In June the same forest was blue with bright blue, long spurred Columbines—a vivid blue, not the dull purple of our granny bonnets.—VICTORIA SLADE, *Foyer Feminin, Rheims.*

LIME AND BEARDED IRISES.

THE correspondence about rhizome rot in Irises betewen Dr. Osburne and Mr. Dykes has interested me very much, as the experience of the former exactly tallies with my own. Rhizome rot appeared rather badly in the pallida group, and I cast about for a reason. Having seen German Irises growing on limestone hills in Greece and my garden being deficient in lime, I applied lime with good results. Previously I had consulted in vain a gentleman who had written a book about Irises, but he had no experience of the disease. In my present garden, which has a much stiffer soil, rhizome rot is not so tiresome, but with the purchase of some of the newer Irises came a greater foe in the form of a fungus disease attacking the leaves and turning them a reddy brown colour, after which they died. I thought Ed. Michel was killed by it, but it is now flourishing after a long period of convalescence. Another variety, however, has been attacked, and at the present moment has no leaves, as I cut and burnt the diseased ones rather than allow them to infect others. I shall try to benefit by Dr. Osburne's and Mr. Dykes' remarks *re* rot, but I wish someone would enlighten me as to this other trouble. It is not the same as leaf-spot. A short while ago someone enquired of you about a "Roseberry" Apple. You thought—as did a nurseryman to whom I wrote about a year ago—that it might be Rosemary, but the real name is Rosebery, and it has been sent out by a Scotch firm near Edinburgh. It is a brightly coloured early fruit for dessert. It is to be found in Mr. Bunyard's new book, and is there spelt Roseberry.—ROLLO MEYER, *Watton.*

A READER'S SEEDLING GOOSEBERRY.

I AM sending you by this post in a box some Gooseberries for your opinion. They are from a seedling which fruited for the first time last year. I do not know its parentage. It was growing on the Vine border. I do not like to destroy seedlings till I have proved if they are of value. I think you will find it good flavoured. It resembles the old Early Sulphur Gooseberry, but being a late sort and almost twice as large as that old favourite it should become a standard variety. It is a good grower and prolific. I am calling it Golden Nougat. I also enclose some fruit of Black Currant Trail's Perfection, which is this year proving all I claimed it to be. It is good flavoured, free and does not drop its fruit. Its fruits are now becoming soft owing to the heavy rains. So are those of Boskoop Giant, which has such a good name.—ALEXANDER TRAIL, *Lanarkshire.*

[The Gooseberries were of fair size and excellent flavour, and much resembled in appearance Early Sulphur, which is, for dessert, a favourite with many. Bearing in mind that the fruits were from a seedling growing in good soil—a vine border—it is not probable that the new variety is a great advance as regards size on Early Sulphur, but its late season should render it a welcome addition. The Black Currant Trail's Perfection was illustrated in our issue of September 4 last. The fruit now sent was excellent in point of size and flavour, but a few of the fruits had smashed in transit. It is but fair to add that some Boskoop Giant sent for comparison were in similar condition.—ED.]

WHAT I DID WITH MY ALLWOODII.

SEVERAL times did I see these fascinating hybrids before deciding to give them a place in my garden and create for them—what I considered—a fitting environment. One is apt at first sight to look upon them as Pinks pure and

ALLWOODII SUSAN AMONG DELPHINIUMS.

simple of the Victorian era. But upon seeing Ruby, Rufus and Susan I realised what Mr. Allwood had accomplished in crossing the Perpetual-flowering Carnation with the hardy garden Pink. Having decided that these three were the ones that appealed to me as regards form and colour, I forthwith ordered twenty-four of each variety. On an October morning they arrived, sturdy, well grown plants out of 3in. pots. At once I allotted to them a sheltered space facing south-west; in fact, it was the favoured spot where the Ostrich Plume Asters had recently flowered. This was deeply dug and the Allwoodii planted. All winter they stood in perfect condition. As spring came along I had them hoed regularly, and in April little hillocks of earth heaped round each plant. In early June I moved Ruby in full flower—each plant a veritable show specimen—to form a surround to a miniature water garden, with Nigella Miss Jekyll and Nemesia Blue Gem planted in among them. The effect has been wonderful and they have evoked much admiration. What I have done with Rufus and Susan the accompanying photographs will tell. I may add I consider Rufus at his best when massed with Nepeta Mussini. It is long since I have enjoyed such a feast of colour. Despite the drought I have never seen plants in better condition. They have not been watered, nor have they had any chemical food whatsoever. All they have had is ordinary care, which proves Mr. Allwood is absolutely right in maintaining they are the hardiest plants imaginable, even in this bleak wind-swept Norfolk.—EDITH M. WENN, *Downham Market.*

WAR AND DROUGHT.

I THINK many of your readers would be grateful for information as to the restoration of tennis and other lawns which have been allowed to relapse into fields during the years of war. I fear there is no economical method; the advice given by the seedsmen is beyond the purses of most small gardeners, but any suggestion would be valued. It would also be interesting to know how best to deal with the many apparently dead and dying shrubs, which we cannot save for want of water and cost of labour. If cut down now, is there any chance of their recovery! A list of drought-resisting plants would be useful, especially as we are threatened with a cycle of dry seasons. Here in South Bucks the "unsettled weather" has not yet reached us.—HEDGERLEY, *Stoke Poges.*

[We hope shortly to publish an article on the rather difficult and complicated subject of the restoration of neglected greensward. It would not be advisable now to cut down any flowering shrubs in which any possibility of life remains. It may be taken for granted that Conifers, unless transplanted last season, which appear dead, *are* dead, and as such trees are anything but beautiful, they had better be removed.—ED.]

WISLEY IN THE DOG DAYS.

UNABLE to undertake the drive to Wisley before July 18, I was, unfortunately, too late to see the Giant Lily in its glory. The flowers had all been over some ten days or more; but one could realise from the great sturdy 8ft. stems and developing seed pods what a wonderful sight must have been there. The Wisley colony is certainly thriving and increasing; the site so well chosen that prolonged heat and drought have little effect. A rich, cool, deep root-run is essential, and protection from late spring frosts and east winds most important. In THE GARDEN of July 29, 1916, there is an excellent plate of Lilium giganteum in flower in the shady wild garden at Wisley, with full cultural directions; but the writer omits to mention that it may also be quite successfully propagated from seed. I remember, too, that in another number Sir Herbert Maxwell has put it on record that in his garden a dead pike from the lake proved excellent feeding for this hungry goddess! Near the Lilies on the 18th there was still a good patch of Primula littoniana in flower. This curious looking plant, one of Forrest's importations from China, "at first glance certainly suggests a British Orchid rather than a hardy Primrose." The Willow Gentian was flowering at the feet of some good spikes of Lilium superbum not yet out. This Lily also evidently appreciates its home in the dell. Away up at the top of the rock garden I found a beautiful solitary spike of L. martagon dalmaticum—a splendid effort, for it carried some sixty flowers. I think it is Redouté who describes this Lily growing on the cliffs above the gorges in Dalmatia, its fibrous roots finding

a hold in the fissures of the rocks. Whoever planted this bulb at Wisley must, I think, have had this in mind, and the result is most successful. The glory of the rock garden, of course, was over, but two good plants in bloom were Gentiana septemfida and Nierembergia rivularis, the white flowers of the latter particularly effective where spreading over stones round the Lily pools. Big bushes of Buddleia variabilis were very fine, courted, of course, by their ever faithful friend Vanessa Io. In a shady corner a long hedge of Campanula lactiflora, both blue and white, in front of and partly upheld by Rosa rugosa, was most effective and cool looking. In the herbaceous border the pretty rose pink Malva alcea fastigiata was good—this plant seems to revel in the blazing heat, for I found it a day or two later in a friend's garden in perfect condition and quite the outstanding feature. My thoughts flew back to a dry, sunny space in a North Country dene where years ago I used to find the pink Malva moschata, one of the prettiest of our native wild flowers. Forbes Watson says with truth: "True appreciation of flowers can only be learnt in the fields." Glaucium flavum tricolor (the Horn Poppy) and Platycodon grandiflorum were also in good form. The blue Water Lily (Nymphæa stellata) was lovely in the specially made tank. It is certainly a gem, its clear, starry sky blue flowers rising on slender stems some 12ins. above the water. A native of Zanzibar, it was finding this tropical heat much to its liking.—W. Duggan.

[Vanessa Io is the entomologist's name for the Peacock butterfly.—Ed.]

VENUS'S LOOKING GLASS.

I FOUND this showy little annual growing wild in a waste field in the Rhineland two years ago and brought home some seed. It did extremely well in the garden last year, the bright purple flowers lasting long and single plants producing a patch of blossom at least a foot across. I have not so far met with it in any seedsman's list, but it is described in Mrs. Loudon's "Ladies' Flower Garden" as having been grown in gardens since the time of Gerard. This year it has suffered severely from the drought and has made less show than usual.—R. B., *Cottingham.*

THE DAINTY SNOWFLAKES.

THE very sound of the word "snowflake" pictures to the mind something dainty and delightful, and the flower to which this descriptive name is applied certainly does not fail to justify its nomenclature. The Spring Snowflake, Leucojum vernum, is one of the earliest and most beautiful of all the floral treasures of spring. A little plant, clustering into a small clump like the Snowdrop, with stems 4ins. to 6ins. high, laden with drooping white bell-formed flowers each daintily tipped with green. The next to bloom is L. æstivum, the Summer Snowflake, which, flowering in May, far surpasses its earlier relative in height. It attains 1½ft. and forms a very striking specimen, especially in the rock garden among plants of lowlier stature. Its spikes of wiry stemmed flowers are much larger than those of vernum and very graceful for cutting. L. pulchellum flowers about the same time and is similar. Few people seem to know the Autumn Snowflake, L. autumnale, though this is the most distinct of all and well merits a place both for the beauty of its flowers and the unusual flowering season. It reaches a height of 4ins. and in shaded places in the rock garden bears a number of pink and white flowers.—Croydonia.

[Does the word "snowflake," even in these hot days, bring to readers' minds something "dainty and delightful"? To us it recalls misery and goloshes!—Ed.]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Sun Roses are among our best subjects for hot, dry soils in full sun on the rock garden. The plants should be so placed that they may spread and overhang some old stonework or cover the face of a low wall. Propagation may be effected by seeds or cuttings inserted in light sandy soil and placed in a cold frame, which should be kept close and shaded until the cuttings are rooted.

Rock Roses.—Except to give further testimony to the sterling merits of these plants, little need be said, as they were so well dealt with in a recent issue of The Garden. They may be increased by seeds sown in spring, or by cuttings inserted in early autumn and treated in the same manner as advised for cuttings above. I have never seen these plants under happier and more flourishing conditions than in the gardens of Thornton House, Chepstow.

Bulbs which should be planted at once, if not already seen to, include the autumn-flowering Crocus and the hardy Cyclamen. The lesser wild portion of the woodland garden is a suitable place for the former, while the Cyclamen should be found a somewhat shady spot in or near the rock garden, unless the planting be of an extensive character, when a suitable place for naturalising them should be found on a cool, shady bank or round tree trunks.

The Kitchen Garden.

Spinach.—The best for winter and spring use are the prickly and perpetual varieties. The latter is probably the more reliable for cold soils. Both varieties may be sown now in drills 15ins. to 18ins. apart, and if necessary another sowing can be made early next month.

Lettuce.—Seeds of suitable varieties for winter and early spring work may be sown now. Given a favourable autumn, it is not too late to get good results from another sowing of an early maturing Cabbage variety, sown on a warm border where some light protection may be given if necessary. In addition to sowing winter varieties in the open about this time, another one should be made in September, and from the latter sowing endeavour to leave some standing in the seed bed, which, given a little protection, will be found useful stuff for transplanting to a warm border as early as possible next year. Where cold frames can be spared, a good supply can be pricked out into them for winter use.

Plants Under Glass.

Pelargoniums.—Well ripened cuttings are now available and should be inserted in sandy soil round the sides of 3in. to 5in. pots. They will root quite easily if the pots are placed on a shelf in a cool house where the direct rays of the sun do not reach them. A damp, close atmosphere is the chief enemy to all cuttings of this family. If necessary to retain the old plants, they should only receive sufficient water to keep the wood plump and should be kept outdoors until they are cut back in readiness for another season's growth. The sweet-scented foliage type may also be easily increased by cuttings inserted now, and plants grown on singly or otherwise, as requirements demand. The old plants make a wonderful show when well looked after, and the foliage is often most useful for indoor decoration, making a welcome change during the early months of the year.

Crassula coccinea has revelled in the bright sunshine, but has now finished flowering. The young unflowered growths will serve as cuttings, and to save future labour they may be inserted round the sides of 3in., 4in. or 5in. pots and allowed to flower in them, which they will freely do if not kept too wet during the early stages of growth. Use a sandy compost and place the pots of cuttings on a shelf in a cool greenhouse and shade from bright sunshine until rooted. The old plants will make a fine show if kept another season. To induce them to break well they should be cut fairly hard back. Very little water should be given during the winter months.

Cyclamen seed should now be sown in pots or pans which are thoroughly well drained with crocks and rough material. The fine soil should be good loam, leaf-soil and sand, and into this the seeds should be placed 1in. apart and half an inch deep. The soil should always be kept uniformly moist, and the pots or pans covered with glass and shaded until germination takes place.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

French Beans.—As this crop is always in favour, it will be well, where the necessary accommodation is available, to make a late sowing in frames. Osborne's Forcing is well adapted for this purpose. Do not sow too thickly, or else the plants will not mature and fruit quickly. Sashes should be kept conveniently at hand in case of frosty evenings, as nothing in the garden is more susceptible to such than this delectable subject.

Mushrooms.—Where an autumn supply is anticipated, the necessary preparations should now be made. Advantage may be taken of any wet weather to have the Mushroom house thoroughly cleaned out and the interior walls lime washed. Where horse droppings are available, they should be collected daily and placed in an open shed, where they must be turned frequently. When in condition for removal to the Mushroom house they should be trodden firmly, leaving the bed when finished, about 15ins. in depth. A good firm bed which has been carefully handled during fermentation should be productive of fine mushrooms, but if carelessly managed disappointment will follow. When the temperature of the bed registers from about 75° to 80° the spawn should be inserted about 2ins. deep, and the bed then made firm and even, covering over, a few days later, with loam and beating down lightly with the back of a spade. Keep the temperature of the house about 60°, and spray frequently so that a moist atmosphere may be maintained.

Onions.—A sowing of the Tripoli type should now be made on a nice sheltered border for spring and early summer use. It is essential that the soil should be rich and well drained. Scatter wood-ashes over the surface and work in with the rake, afterwards sowing the seed in lines 12ins. apart.

Plants Under Glass.

Hydrangea Hortensis.—If not already done, cuttings of this plant should be inserted without delay. Choose short-jointed, well-ripened growths and dibble into small sized pots, placing them into a close case in the stove or Melon pit until rooted. After root action takes place, they may be transferred to a shelf near the glass for a period.

Roman Hyacinths and Early-Flowering Tulips.—In establishments where quantities of these are used for forcing, no time should be lost in potting them up as they come to hand. It is essential that all such bulbous subjects should be well rooted before forcing takes place, therefore give every opportunity for root development before the time comes to transfer them to the forcing pit. A quantity may be potted into suitable sized pots, but for general usefulness we find boxes best, especially if it is customary to transfer the bulbs when in flower into china bowls or other receptacles. Roman Hyacinths and the scarlet Duc Van Thol Tulips are most decorative when used in this way, with the addition of a few small Ferns as a groundwork.

Fruit Under Glass.

Peaches.—As the fruit is cleared from the trees, old bearing wood may be cut out as necessary. This not only relieves the trees, but allows more sun and air to play about the current season's wood, thus allowing it to become thoroughly ripened. Should more than sufficient young wood have been tied in than will be required, the weakest growths may now be cut away. If the young wood is to receive every chance of becoming well ripened and remaining in a healthy condition the trees should be syringed daily. See that the border is in a sufficiently moist condition to ensure a healthy finish to the season's growth. Later houses in which the crop is swelling should receive generous treatment in the way of artificial or liquid manure.

The Orchard House.—Owing to abundance of sunshine the occupants of the orchard house generally will be ripening more quickly this season. Attacks of red spider are also more prevalent, and action should be taken to get rid of this pest, either by fumigation or syringing. During the ripening process, care should be taken in watering. Allow free ventilation, more especially with the Apples, and thus obtain that sweet and juicy crispness so prized in the Apple.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

THE CULTURE OF STRAWBERRIES IN POTS

[In Answer to a Correspondent.]

HOW to grow Strawberries in pots is a pertinent and a useful question to ask at the present moment, as it is the time at which the commencement of their culture should be taken in hand. The pot Strawberry crop in the spring of the year is in many respects most important, it being the first fruit of the new year and filling a want, as the supply does, through March, April and May, which no other fruit can fill. Intense interest is taken in the subject by gardeners, and much thought and labour given to the growth of the crop. As a commercial venture, in capable hands, the forcing of the Strawberry in pots and by other methods in spring is in its way a great industry, employing a large number of hands, and is usually of a remunerative character.

To begin at the beginning, we have to start with the layer. It is better to obtain these from young plants specially grown for producing runners alone, and which have not been permitted to waste their strength in producing fruit; but the majority of readers will, I fear, not have made this provision, therefore the next best thing to do will be to select the strongest and healthiest layers that the old fruiting plants can give.

The layers for producing ripe fruit in March are those which are first formed. For those to fruit from then to the end of May, the end of July or early in August is a good time to layer. This is done by filling 3in. pots full of best garden soil, plunging the same in the soil around the plant 1in. or 2ins. deep to prevent the pots wobbling about. These must be plunged within easy reach of the layers. Place the base of the layer on the surface of the soil in the pots, and slightly press it in; then place a pebble of fair weight on the base of the layer to keep in position until it has rooted into the soil, when it will take care of itself. In about a fortnight or three weeks roots will have filled the small pots. The layers may then be severed from the parent plants and placed together fairly closely in a sunny position on a gravel patch or standing ground. The plants thus severed will flag and show signs of distress for a few days. This is of no consequence; they will soon right themselves if they have not been severed until their roots had filled the pots. No time must be lost in providing the soil in which to pot them, for the sooner the young plants are got into their fruiting pots—within a week or so—after severance the better. The nature of the soil is important, as it has to sustain the plants until the fruit is gathered.

The backbone of the compost should consist of maiden loam, inclining to be of a heavy texture. Break up same with the hands into pieces the size of a pigeon's egg, but use the small mould which crumbles off as well. To each bushel of loam add one quart each of bone-meal, soot, lime and ashes of burnt garden refuse. Mix well together. Keep under cover to prevent it becoming too wet. The soil will now be ready for use.

Our next move will be to provide the number of pots required. For the earliest forced plants 5in. pots will be large enough. For those to fruit through April and May 6in. pots must be provided. If the pots are new, have them soaked in clear water for a few minutes and allow to dry before use. If dirty, have them washed clean. Crocking the pots is a simple but important matter. Without effective drainage the production of good fruit is impossible. Place a good-sized clean potsherd well over the hole, concave side downwards. This will tend to prevent the ingress of worms to the pots, and at the same time secure effective drainage without its being too quick and excessive. On the top of such potsherd place crocks, broken to pass a half-inch riddle, half an inch in depth, covering the whole with half an inch of the loose fibre of the soil compost. Ram this down firmly with the potting stick. The pots will now be ready to receive the young plants.

Half fill the pot with soil and well ram the same down with the blunt end of the potting stick. Next turn the young plants out of their pots (make certain that they have a good soaking of water the previous evening), slightly loosen the bottom roots and place in the pot. Before adding any soil make sure that the top or crown of the plant is neither too deep in the pot or too high. This is important, but a little experience will soon put the grower right in this respect. A good test is to place a foot rule edge-ways across the top of the pot. The crown, meaning that part from which the leaves emerge, should be half an inch below the lower edge of the rule. This is a safe guide. The plant placed in the right position, fill the pot with soil to over-flowing with the hands, and then ram down round the roots of the plant, first with the thin end of the potting stick, afterwards with the blunt end, making the whole mass as firm as possible. The surface soil when potting is finished should be on the same level as the crown of the plant. The potting finished, our next business is to place the pots together in a sunny position on a hard surface covered over with sifted coal ashes. Place the plants in rows 4ins. apart, forming beds of five rows each, the rows to be 4ins. apart between pots and an alley or path being left between the beds.

The young plants as soon as the new roots take to the soil will make rapid growth. Every possible care should now be devoted to the watering of the plants. Do not give too much for a week or two after potting. Wait until the soil appears fairly dry and then give a really good watering, and wait again before giving more. It will not be long before the pots are filled with roots, and then water will be required most days in dry, hot weather. Be careful not to let the plants suffer from want of water. If in doubt as to whether the plant is dry or not, lift it up and judge by its weight. If light, water must be applied, and that without delay.

The next subject to claim attention will be the runners. These must be diligently cut off as fast as they are formed. By the end of October the plants will have finished their growth, and the question will arise as to the best way of storing them for the winter until wanted for forcing. The best way I have found is to plunge them close together in sifted ashes or fresh leaves in cold pits or frames exposed to the weather at all times, excepting in very severe frost—and then protected more to prevent the destruction of pots by cracking than from fear of damage to the plants from frost. The next stage in the growth of the plant is its forcing into blossom and fruit. Ripe fruit may be obtained as early as February, and in succession through March, April, May and early June, so shaking hands with the outdoor plants, both combining together to give us grand crops of this luscious and refreshing fruit for a matter of six months, from February to August. The beginner would be wise not to attempt to force this fruit too early until he has had experience.

Owen Thomas.

Hardy Perennials in Small Gardens

A well arranged border of hardy flowers gives a continuous supply of colour, but only requires replanting once in three years.

IT is frequently somewhat glibly stated that herbaceous plants will yield a constant and plentiful supply of flowers from spring to autumn, and certainly this is true, provided one has an extensive garden devoted to a thoroughly representative collection, cultivated with skill and painstaking care; but it has to be admitted that often in a small garden we see herbaceous borders which are but intermittently gay, and sometimes for weeks on end are almost bare of bloom. In many an impulsive denunciation of formal bedding we have been told that Pæonies, Irises, Delphiniums and Phloxes are beyond comparison with Geraniums, Calceolarias and Lobelia; but if the centre bed of a small garden is given over to either of these subjects, the result in the long run is apt to be disappointing. The Pæonies are gay for a fortnight or three weeks, and more or less untidy and dull for the rest of the year, and the same drawback applies to the other subjects quoted. Even in a mixed border of small dimensions there is a risk of frequent gaps and scarcity of flowers that in time palls on one, and, maybe, leads to a return to orthodox bedding.

By the exercise of forethought and judgment, however, it is possible to realise one's ambitions for a continuous display of colour and beauty, even in a restricted area, by the use of hardy perennials alone, and with this end in view, no plan is so entirely satisfactory as that of carpeting the ground with some low-growing subject, thinly interspersing plants of taller, erect habit to flower at different periods. For instance, a bed may be carpeted with the rosy-flowered Saponaria ocymoides or Dianthus deltoides, and over the surface of the bed plants of Delphiniums may be thinly distributed. Between these some bulbs of Galtonia candicans or some hybrid Gladioli may be planted, and the result of such a combination of tall plants with a carpet of close-growing subjects will be that the bed is never bare, but always attractive. Veronica rupestris, Cerastium Biebersteinii and Œnothera missouriensis are other suitable subjects for carpeting, and we may have Camassias, Montbretias, Liliums or Liatris pycnostachya for companions to any of these plants.

Dwarf Antirrhinums or Pentstemon Newbury Gem will make a grand display in a bed upon the lawn; but if in early summer Spanish and English Irises occupy the bed, and in the autumn a few choice Phloxes grown on single stems are seen, interest is greatly enhanced and neither the Antirrhinums nor Pentstemons need suffer. The chief point to observe in planting beds on such lines as these is, first to plant thinly and then to watch progress, restricting when necessary such plants as tend to encroach too much upon the space that should be occupied by other things. One great advantage of this system of bedding is that replanting only needs to be done about once in three years, and it is also a plan that dispenses with the necessity of glass accommodation for the plants in winter.

Heather Bell.

THE GARDEN

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NOTES OF THE WEEK

INDIAN gardens should be a topic of wide interest when intimate, even family, interest in that picturesque and complicated Empire is no longer confined to a small minority. Since the early days of the Great War multitudes to whom India had hitherto been little more than a name, have taken a real interest in our Eastern Empire, stimulated thereto by descriptive letters from those near and dear to them; letters often awaited with that enforced patience which, especially in time of war, makes sick the heart. Many readers, no doubt, have sons or other relatives in the Middle East still so that the article on the gardens of India by a reader resident should be of general interest.

A Noteworthy New Race of Plants.—The display of flowers and fruit at the Royal Horticultural Society's Hall last week was one of the smallest seen for a long time, but it was noteworthy for several fine exhibits of Gladioli and a fine show of Phlox decussata in tubs. It is sincerely to be hoped that the new Gladiolus primulinus Utopia, which received an award, will prove a good grower and prolific. Should it do so, its graceful spikes of charming coy-looking flowers with their rich but tender colouring will ensure it wide popularity. The charm and grace of this new variety and, indeed, of several other of the primulinus hybrids will, in the eyes of most of us, more than counter-balance the larger blossoms and greater stature of the Groff's, Gandavensis or Nanceianus strains, so that to them and their descendants may, with reasonable safety, be prophesied a more lasting popularity than has befallen many races of new plants which, when first introduced, have for a time had a vogue

Alpine and Herbaceous Plants from Seed.—There are many alpine and herbaceous plants, especially species, but including quite a number of varieties also, which come quite true from seed There are a still larger number which come approximately true, so that many people will endure the slight falling away in size or depth or clarity of colouring so that they may enjoy the enhanced vigour of the plant. There is a still larger class of perennial plant which produces plants of fair average quality from seed with a proportion of really excellent varieties, but the seedlings vary much among themselves and many often bear small resemblance to the seed parent. In the first class may be placed the many species of hardy Primulas, especially those of the Candelabra section—japonica, pulverulenta, Bulleyana, Cockburniana, helodoxa, etc.—plants essentially fitted for raising from seed; a host of species of rock plants, of which those belonging to the Cruciferæ and Papaveracæ deserve special mention as being for the most part short-lived plants; Aquilegia (species), if precautions are taken to prevent pollination; Geum (species), Coreopsis grandiflora, Pentstemon species, and others. To the second class belong such plants as Anchusa italica Dropmore, or other named variety; Geum Mrs. Bradshaw, Gaillardias.

CHARMING BUT COY! GLADIOLUS PRIMULINUS UTOPIA.

Gypsophila paniculata—the seedlings vary rather considerably—Lupines, both tree and herbaceous, Kniphofias, etc. In the third category come such plants as Delphiniums, Oriental Poppies, hybrid Primulas, Aubrietias, Pinks, Carnations, long-spurred Aquilegias and florists' flowers generally. Some herbaceous seeds germinate quickly, some slowly. Some are easy to raise, some difficult. Generally speaking, those which take long to germinate are slow in growth also, but this is not an invariable rule. In any event, the more quickly difficult seeds are sown when they are ripe, the more rapidly and readily they will germinate. If hardy Primula seeds have not been sown they should be got in without delay. The same rule holds good with such supposedly difficult subjects as the nearly related Androsaces, the Gentians, Helleborus niger and orientale the Soldanellas and many other difficult more or less alpine subjects, but it will save a great deal of time and trouble and much avoidable heartache if the seeds of all herbaceous plants are sown at the earliest possible opportunity. It is wise then to order any such seeds at once. The houses which cater for this trade, and they are not numerous, will gladly despatch those which are ready and forward the remainder as they mature. Exposure to moderate frost in winter—too severe a frost would crack the seed-pans—and covering the pans deeply with snow whenever possible will often expedite germination of alpine subjects by a full twelvemonth, an additional reason for autumn sowing. Seeds of annuals for conservatory decoration in the spring, also those of Cyclamen, should now be sown without delay; neither should time be lost in procuring Sweet Pea seeds for autumn sowing.

The Hardy Plant Society.—It will be a source of great satisfaction to hardy plant lovers to hear that the National Hardy Plant Society's Show at Market Bosworth (the first since the war) was, despite the unfavourable season, quite successful. In these days the hardy border flowers, the advancement of which is the Society's main endeavour, are favoured denizens of every garden. The newer methods of exhibiting flowers so as to display the characteristic habit and growth of the plant are entirely admirable, and in general the objects of the society are good, that they should be assured of wider support than it now has

SOME INDIAN GARDENS ANCIENT AND MODERN

THE story of Indian gardening is one which will well repay study, but as yet little has been done to trace the development in that country of landscape art, and there is a field of discovery, as well as of pleasure, before any who care to seek the symbolic meanings which lie behind the artistic designs of the old Eastern designers. Mrs. Stuart has given some account of the gardens of the great Mughal kings, but there are other types of gardening which deserve study; and in view of the New Delhi which is steadily arising, it seems imperative that Government should take measures to introduce, as far as possible, some of the best features of the Indian garden, rather than that they should follow some stereotyped Western style. From the earliest times flowers have been cultivated and admired by Indian people, for there are endless references to flowers and trees in the famous epics with which all classes here are familiar. Evidences of the detail of those old gardens are very limited indeed, and we must turn to the gardens made by the Mughal emperors if we wish to see the best that India has done in garden design. The splendid garden traditions were brought to India from Central Asia and Persia, lands of Roses and scented flowers, the sacred places whence their wonderful poetic imagery was drawn. The love for flowers seems to have been very general all over Central Asia, and no one who has visited these countries when they are covered with their carpets of flowers can wonder at that appreciation of nature. The garden introduced into India by Babar and other Mughal rulers differed widely from designs generally appreciated in Western countries. It was, as a rule, made on a gentle slope. It had a lake supplied by streams of crystal water, and on its surface were numerous waterfowl. Jets of water, which "spouted into the air so high that the falling spray resembled masses of diamonds," were frequently introduced. Special attention was also paid to the watercourses which, paved with brilliant blue tiles, were usually kept quite full, These gardens were invariably square or rectangular in shape, and a high wall encircled the garden to ensure the privacy so essential to a Mohammedan family. Not only were flowers grown in abundance, but special attention was given to the planting of trees, a description of which is given by Mrs. Stuart. "The trees were planted to carry out and emphasise the general lines of the garden very much as is described in the garden of Mahun, where the planes and cypress trees formed a background to the rose bushes and flowers bordering the stream. Round the outer walls also avenues of trees were planted, while the square plots intersected by the watercourses were filled with fruit trees and elaborate parterres of flowers. There were shady walks, pergolas of vines and flowers; here and there were open squares of turf shaded by large trees planted at the corners, or having one central chenar or mango tree surrounded by a raised platform of masonry or grass, which formed a free space for feasts and gatherings such as the Mughals loved. Here they could recline at ease on the soft turf, or, seated on brilliant carpets, enjoy the charm of conversation and the hookah and indulge in musical parties, or while away the cool evenings with recitations from the favourite Persian or Turkish poets. Many of the fine old specimens of terrace gardens which were the glory of the Mughal Emperors are now neglected, while in others the designs have been so altered to conform with western ideas that it is difficult to trace the original plan."

No building is better known throughout the world than the Taj Mahal, the "love poem in marble." Even the gem itself was neglected until a few years ago. It could not be expected, therefore, that the setting should not suffer; but in recent years much has been done, under the inspiration of Lord Curzon, when Viceroy of India, to retrieve the neglect of the past. Visitors to-day are almost as favourably impressed by the setting as by the gem itself. One of the old travellers to India, Bernier, has left on record a description of the gardens as he saw them in 1660. But the gardens have been modified since

A VIEW IN THE GARDENS AT GOVERNMENT HOUSE, OOTACAMUND.

THE FERNERY IN THE SAME GARDENS. [ORIENTAL AND OCCIDENTAL PLANTS IN CONTRAST.

hen. Along the main canal running from the ntrance gate to the tomb itself there is a row of ountains, and along the two sides are stone ordered, star-shaped beds now laid out in grass. here is a splendid avenue of Cypress trees which ave been planted to replace the old ones. In he central tank the image of the Taj is clearly een. "How delicious they are, these formal

THE GARDENS OF THE TAJ MAHAL. THE MAIN CANAL.

flower beds, with their blue bells, daffodils, tulips, crown-imperials, lilies, and irises, which stand up swaying on their slender stems by the black and white marble ripples, forming a fairy circle round the tomb. Spring flowers all of them, for the Rose of Persia and the Lotus of the Good Law hold a truce, and are missing from this gathering of flowers." No visitor can fail to be struck by the beauties of the Royal Palace of Agra where the Mughal rulers reigned. But to-day the aspect is cold and lifeless compared with the palace then, for each season brought round its own flowers which grew in abundance in the gardens through which ran channels of water, discharging into reservoirs of stone and marble. But there is one part of this wonderful palace in which the visitor may see evidences of the old garden. It is called the Anjura Bagh, and lies in front of the Khas Mahal, and was used by the palace ladies. The garden is laid out in geometrical patterns with marble slabs. There are four walks of marble, all in keeping with the surrounding marble buildings, which radiate from a central platform, or raised fountain tank. Formerly there was a stone trellis around the flower beds, and it is believed these supported large Vines. The view here is perhaps the finest in the palace grounds, but one regrets that the garden, once so full of rich blooms, is bare and open, its straight lines suggesting anything rather than a garden.

The Mohammedan rulers frequently made gardens around the buildings which every Mohammedan king took care to erect early in his reign for his tomb so that he might have a worthy memorial. Some of these gardens still exist, though in a neglected condition. Much has been done to improve the general appearance of the tomb of Akbar at Sikandra. The plan of the garden there is very simple. It is laid out in the form of a cosmic cross, in a huge enclosure with high battlemented walls. In the centre of this space is the wonderful mausoleum, built of red sandstone and marble. On each side there are tanks with central fountains supplying the water for the narrow canals which once ran down the centre of the raised stone pathways. According to Jehangir's memoirs, the gardens were planted with Cypress, wild Pine, Plane and Supari.

Reference has been made to several of the gardens which were made in the time when India's finest artistic work was done, the period of the Mughal kings, and it remains to mention some of more modern times. Gardens are still made according to the old designs, but they are becoming rarer. In many ways this is regrettable, for it cannot be a good thing that a nation should lightly abandon in its artistic work the tradition of the past. These designs were suitable for India; they provided a delightful shelter against the rays of the sun; they gave the ladies a place of privacy. In the houses of wealthy Mohammedans, and others whose women are "purdah," these quiet gardens are still to be found. In Udaipur there are several very delightful gardens, used chiefly by the women of the Royal households. In the lake there are several islands which have been transformed into lovely gardens, where grow in profusion the loveliest flowers of the East. They have that elusive charm that is missing from Indian gardens formed on the English pattern.

While this is so, there are some gardens made according to Western design that compare not at all unfavourably with some of the best gardens in England. To be successful, such gardens must be established either on the hills or in places where there are no great extremes of heat. There are some delightful gardens on the Nilgiri Hills. Perhaps the first in point of beauty is the one attached to the Government House, Ootacamund. Here is a great stretch of lawn intersected with wide gravelled roads, and many beds containing a great variety of flowers, both Indian and English. The garden gradually ascends in terraces, while here and there are pleasing ponds of water, gay with Lilies and other aquatic flowers. The tremendous Tree Ferns, sometimes 20ft. high, form a magnificent background. Narrow paths wind round the terraces, and seats are placed in positions from which splendid views of wide landscape can be obtained. All the year round there is a brave show of colour, for rain is plentiful. English plants and trees have been introduced with great success. Whether the Indians consider the old style of garden superior to this or not, it is a much frequented resort by hosts of Indians making their way to this delightful hill-station. Bangalore has been called "The Garden of India," and in some respects the title is deserved. There are few towns that enjoy so equable a climate. It is therefore possible to grow not only the Indian plants and flowers to perfection, but it has proved suitable for the cultivation of English flowers. The Lal Bagh is an extensive stretch of ground that has been laid out by the Mysore Government. It is kept up at public expense. There are wide walks, to which overspreading trees provide good protection during the heat of the day; the tastefully laid out beds are always a mass of bloom, while there is a large glass pavilion used on gala days and for flower shows. These flower shows are extremely creditable, some of the blooms being of sufficient quality to win prizes in the best shows of the West. While there is here much suggestive of Europe, the general impression is Oriental. This style of gardening is possible in an equable climate, such as the city of Bangalore, but in hot localities where it is only possible to grow flowers during the monsoon, the old Indian style seems best. In the gardens in that style there was always at hand a plentiful supply of water which kept the earth moist; but, alas! nowadays, the garden of the plains usually consists of a few straggling trees and an immense number of pot plants. The ground is too hard for plants, save in the monsoon. There is, too, the ever present fear of that hated enemy, that universal destroyer, the white ant, which works much havoc on everything in the ground. Such is a poor substitute for an English garden, and one often longs for the delightful Oriental gardens which combined shade and water and produced in such profusion the brilliant and fragrant flowers of the East.

A Neglected Family of Bulbous Plants

The Culture of the Calochorti

IT is very strange how some bulbs have attained an extraordinary measure of popularity. A popularity so great that they are met with in every garden, from the smallest to the greatest all over the land. Others—the Calochorti among them—are rarely seen. It is, indeed, only in the garden of the specialist, the seeker after the rare and uncommon, that one finds their beauty appreciated and the gorgeous flowers expanding during June and July. True they will not "grow themselves," but the comparatively small amount of trouble necessary, is well repaid when they are in flower. They are hardy, readily divisible into definite classes that will not fail to respond to certain rules of culture and reward their owner by a generous supply of entrancingly beautiful flowers.

Hark to the common names—Butterfly Tulip, Globe Tulip, Star Tulip—these alone ought to stir a desire to experiment among them. Though the name Tulip has been applied because they belong to the same natural order, the flower has little in common with the ordinary Tulip, the different sections varying considerably, not only from these, but from one another.

The Butterfly Calochorti are characterised by widely expanded [illegible]

profusely produced on long stems, and are very lovely when cut for house decoration. They attain a height of between 16ins. and 30ins., with lavender or lilac blooms. The Venustum group is equally good and robust, similar in stature, but in a wider range of colours, embracing yellow, white, lilac, purple, red, pink, etc.

The Globe Calochorti do not exceed 1ft. in height and have beautiful globular drooping flowers in white or gold, with fringed petals edged with hair.

Star Calochorti differ again in that their flowers are in the form of open cups on dwarf slender stems, seldom exceeding 6ins. in height. The colour range is restricted to yellow, lilac and white. With so much variation in habit, etc., they fall naturally into different positions and uses in the garden, the dwarfer species being most at home in the rock garden or a narrow border beneath a greenhouse wall, while the more vigorous Butterfly class, including the Venusta group, are best on a raised border with a full south aspect, for, though perfectly hardy, each section demands different cultural treatment.

A BEAUTIFUL STAR TULIP, CALOCHORTUS MAWEANUS. THE HAIRY INTERIOR OF THE PETALS IS NOTEWORTHY.

How to Succeed with the Butterfly Calochorti.—A raised border is essential as they demand very free drainage and a hot dry soil to perfectly ripen the bulbs after flowering. They are natives of California and we must compensate—as far as possible—for the cloudiness, sometimes (!) characteristic of our climate by such mechanical aid as we can provide. Raise the border a foot or 18ins. by first placing at the bottom a thick layer of broken bricks, clinker, etc., over which 1ft. of very sandy soil is placed. This ensures that the bulbs lie warm and dry after flowering and through the winter, but, at the same time, entails a good deal of watering during the time that growth is being made. The bulbs should be planted at a depth of 2ins. during November, while 3ins. apart is sufficient so that a small border will accommodate quite a good number. After planting, cover with a good layer of bracken or straw in case the winter proves very mild and the top growth appears too early, though this must be removed in March in any case. Do not water too frequently even in the driest times as this chills the soil. Soak it thoroughly when it is done then wait until absolutely necessary before supplying more. After the flowers have faded a spare frame light should be laid over the bed, raised on bricks at the corners until the foliage has completely dried off, then lift at once until replanting time returns. The Star Tulips respond to precisely similar conditions and both may well be grouped together.

Success with the Globe Varieties is attained by quite different methods, for these are woodland plants and need to be planted in partial shade with a soil composed almost entirely of leaf mould. They are by far the easiest of any to grow and should be largely used in the alpine garden.

All varieties do splendidly in pots and both the Butterfly and Star varieties, when grown in this way, can be left in the pots throughout the year, by placing these in a cold frame on their sides from the end of August to the middle of November. From then onwards, sparing supplies of water should be given until active growth commences in spring.

H. W. Canning-Wright.

FREESIAS

HORTICULTURE is a very puzzling game. The man who first thought of connecting astrology with the growing of plants was a genius. It was such a handy way of accounting for things not turning out as they ought to have done, to say that the moon was in the wrong planet when the seed was sown; or that if Mars had had any finger in the pie nothing but misfortunes might be expected.

When there is a shortage of flowers on the stem, as there was this season, one naturally would be inclined to put this weakness down to the want of sun during the period when the bulbs were ripening off. The theory, as far as I am aware, is a very sound one, and I have always accepted it with the same sublime faith that I imagine the sixteenth century gardener showed when he attributed the success or failure of his grafts to his having done the operation in the right or wrong phase of the moon; but I am now wondering whether I will not have to hedge a little, for I found three or four stray plants in some pots of Lachenalias and Nerines that were never repotted, which were as strong-looking as anyone need wish to see and which had quite the usual number of flowers on a stem. It is a parallel case to that odd bulb which at some time or another has been missed, but which has thrown up a plant whose health and strength almost laugh at the laboured efforts of man. The explanation here is probably that we do not see all the failures, but that one lucky bulb has just happened to find all it wanted, and so produced a tophole plant and flower.

The same with these four or five Freesias. Doubtless they had found an environment to their liking; their vigour tells us this much. But what exactly was it that has made the difference between them and the lifted bulbs? I can suggest several reasons. They were super-early planted. The soil conserved the moisture in the dry bulbs. The bulbs like to be potted down among the crocks or immediately above them, and not, as is usual, with about half an inch to an inch below the top of the soil. My strong plants certainly come from there, for I have turned a pot out to make sure. The period of growth has been longer, and, it follows, slower also, than the bulk, which have been dealt with according to Cocker.

Whatever is the reason for the extra vigour of the stray Freesias, their behaviour will have served a good purpose, inasmuch as it has enabled me to call the attention of readers to the cultural requirements of a genus which undoubtedly is beautiful and which is just at present particularly attractive, as the potentialities which lay buried in the few original species of which it is composed are now being brought out by the efforts of man. In Italy, in Holland, in the United States and in the United Kingdom hybridisers are busy trying what they can do. Coloured varieties appear in the early months of the year at Vincent Square. Some receive recognition at the hands of the Floral Committee. White varieties appear, too, but of Excelsior, which evidently caught the members of that august body napping, the less said the better. I have grown it and thrown it away; and my man and I still rue the day we saw it bloom and, as results prove, *unfortunately* used its pollen in our crossing, for it gave us a weak-stemmed progeny which only lived to meet at our hands an ignominious death. Cousin Sam seems rather sweet on whites. One of his productions appeared in the Hall last December in a partly expanded state, but which looked to me full of promise; and I have a different one which was sent me last fall to try.

There are great possibilities in the Freesia. For an important bulb the raising of new varieties is a speedy matter. Seed saved in March and April and sown early in the August following will produce plants a few of which may give small blooms in the spring of the next year, but which will practically all give good strong flowers in a

welvemonth. Thus seed saved in April, 1921, own in August, 1921, will produce a few stray lowers in 1922 and any quantity of first-rate uality in 1923.

Freesias revel in *cool* treatment. They are ust not hardy. An early grower stated, I think n the *Botanical Register*, that he had found that hey were, but from the context we learn he had aken such elaborate measures for protecting hem that no one could call it a fair trial. I find he little seedlings like to be kept just a trifle warmer than older bulbs, so they always winter in our warmest house, but this is not often much over "fifty." A question of great interest in this connexion is whether this fast-growing family may not benefit by the new greenhouse conditions of many gardens. Coal and coke are serious items. I bought coke at 12s. 6d. a ton, delivered, in 1915; for the same quantity I paid 55s. in 1920.

Freesias should, I think, rapidly become more popular.

JOSEPH JACOB.

CYCLAMEN: POTTING RESTED CORMS

GARDENERS adopt various methods of growing Cyclamen plants, and those cultivators who have had considerable experience generally succeed in growing very fine specimens. Some cultivators rest the corms during the early part of the summer; others keep the plants growing. The amateur who has rested his corms must now repot them. Some new growth has already been made, and, if carefully treated, very fine plants will result by the end of the year.

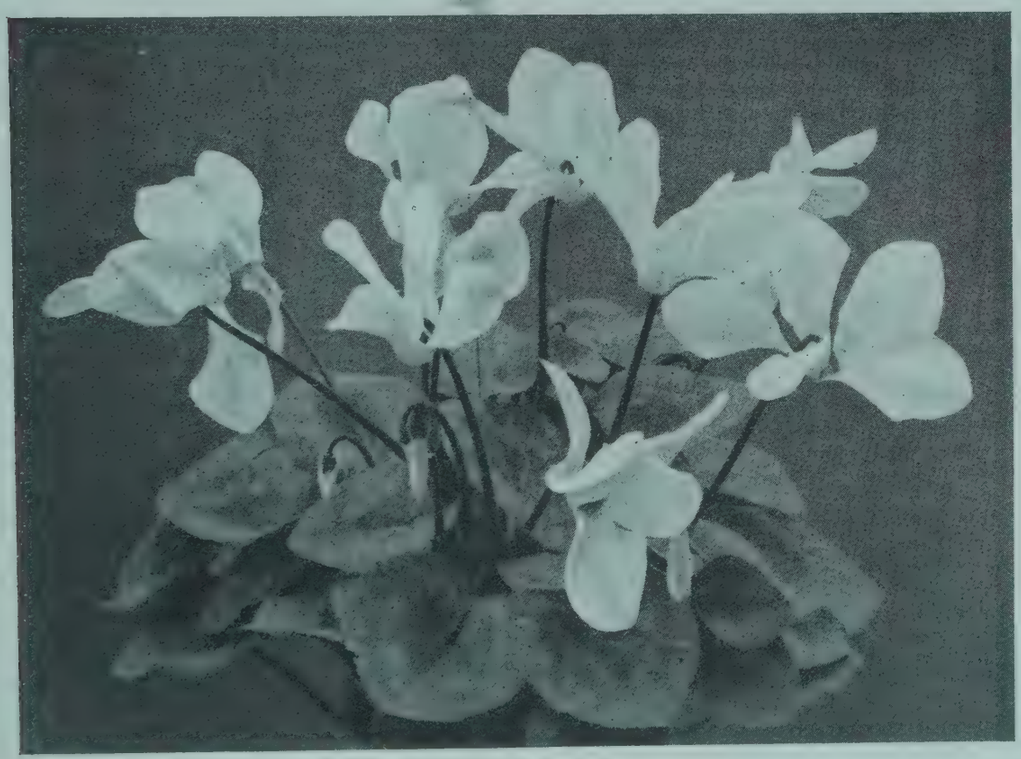
Where the corms vary in size, pots suitable for them should be duly prepared. At this season one potting will do if ample space be left for the new compost in the pots. A corm measuring 3ins. across the crown will require a 6½in. flower-pot; one half the size may be placed in a 4½in. pot. These two examples will be a sufficient guide to inexperienced cultivators when dealing with their plants at this season. Cyclamen do not thrive in soiled pots, so that the insides should be washed very clean and be thoroughly dried before any potting is done.

The Compost.—A light one is, as a rule, the best. If soil of a heavy, retentive nature be used and the least error in watering occurs, the roots soon become less active and the leaves turn up at the edge. Fibrous loam, two parts; leaf-soil, one part; sand and rotted manure, one part, is a suitable compost. These ingredients must be thoroughly mixed. Use only a few potsherds for drainage, but place them well so that the free passage of water will not be stopped. Put in some of the rougher parts of the compost first, with half-decayed leaves directly on the crocks; they prevent any small particles of soil being washed down and causing a block. Press down the compost with the fingers, and do not use a potting-stick at all. When the corms are rightly placed, their crowns must be quite clear of the surface soil.

Treatment After Potting.—Place the pots on a bed of ashes in a cold frame, having them far enough apart to allow of syringing the ashes without wetting the leaves every time. This syringing will obviate the necessity of too frequent waterings of the soil in the pots. If the soil is kept in a nice, medium state of moisture, root action will be more rapid and the plants will grow healthily. Keep the plants in the frame, admitting plenty of air, until the early part of November; then remove them to a stage in the greenhouse.

Seed of these valuable plants may now be sown thinly in well drained pans. A suitable compost is made up of four parts each good loam and brown fibrous peat and one part each leaf mould and sharp sand passed through a quarter inch sieve; but something will, of course, depend on the character of the loam. A temperature of about 60 degrees is favourable and a covering of glass or board will conserve the moisture.

SHAMROCK.



A FINE PERSIAN CYCLAMEN. THE VARIETY IS GIANT WHITE.

The Hardy Cyclamen

Unusual little plants that should not be overlooked when making up your bulb order this autumn.

AT the foot of garden walls, on the shady side, nestling at the base of large boulders in the alpine garden or among the grass surrounding the bole of an old tree—each and all of these positions form happy homes for the dainty little hardy Cyclamen. They are most interesting autumn and spring-flowering plants that never fail to do well and flower profusely, though many find it is difficult to believe that they are really hardy.

Perfect drainage of the soil is essential and, where at all inclined to heaviness, special preparation by the admixture of sand, mortar rubble, etc., is desirable. Even in lighter soils the addition of plenty of mortar rubble is advantageous, for these Cyclamen are lime lovers and, if a little leaf-mould be added as well, they have an ideal compost. Shallow planting should be the rule for all varieties except the August-flowering europæum. This is best at a depth of 4ins. to 6ins., as it roots from the top as well as the base of the corm. The planting of all varieties should be done at the earliest moment that the corms can be procured; the more quickly they are replanted and the less they shrivel the better. Wherever planted see to it that they are given a cool, shaded spot; nothing destroys them so quickly as scorching sunshine. Single plants hugging a weather-worn stone are very pretty in the rock garden, but among grass, near trees, etc., small informal colonies of three to a dozen plants are much more effective. In the course of years, if the plants are at home, these colonies will increase naturally by self-sown seedlings, though these take some years to attain flowering size.

Of autumn-flowering kinds, C. europæum is a valuable plant, as it blooms in August—when the rock garden is apt to present a rather bald appearance. The flowers are small, bright crimson in colour and very fragrant. C. neapolitanum is another useful autumn form which flowers in advance of its foliage. These are a delightful rose pink in colour, very freely produced on stems 4ins. or so high. The foliage which follows is handsomely marbled with silver, and persists all through winter and spring, forming as handsome a setting for dwarf bulbs, such as Narcissus minor, as could possibly be found. There is a white form of C. neapolitanum, which is very beautiful in the rock garden. All the following are spring-flowering, the Coum varieties being the earliest, while repandum does not finish its season until May is well advanced. C. Coum has round, deep green foliage and bright crimson flowers; of this there is a white variety of which the bloom centres are brilliant purple. C. ibericum has silver-zoned leaves and includes a large number of shades of rose, crimson and white flowers.

CROYDONIA.

FORTHCOMING EVENTS.

August 23.—Royal Horticultural Society's Fortnightly Meeting

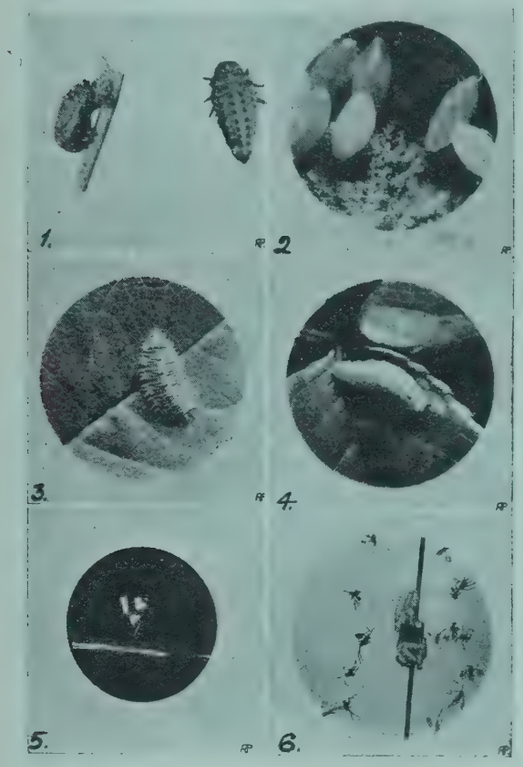
August 25.—Dundee Horticultural Society's Annual Exhibition (three days)

August 26.—Alderley Edge and Wilmslow Horticultural and Rose Society's Annual Show (two days)

SOME FRIENDS OF THE GARDENER

The gardener, as a rule, is inclined to look upon insects in general as enemies rather than friends, and he certainly has good cause to do so. Still, while it is true that the great majority of insects appear to be destructive to our crops and produce, or troublesome and injurious to ourselves and our animals, and therefore enemies of mankind, yet it must be remembered that large numbers are quite neutral and that a few—a very few, unfortunately—are decidedly beneficial.

WE are, of course, dependent on insects for the production of our fruit crops, but apart from the many species of bees and other insects which play so large a part in the fertilisation of flowers there are certain others which are beneficial through their destruction of the injurious species. It is these predacious insects to which we wish to draw attention.



1.—Pupa and larva of ladybird beetle. 2.—Eggs of ladybird. 3.—Hover fly larva, rough type, and 4.—Smooth type. 5.—Eggs of lacewing fly on their curious stalks. 6.—Newly hatched ichneumon flies and the empty cocoons. All natural size, except No. 2 which is magnified ten diameters.

Although they may seem to have but little effect on the "pests," as we call them, it is certain that the latter would be far more numerous without them, and therefore it is important that all horticulturists should know which species are beneficial so that they may, as far as possible, avoid destroying them.

Perhaps the best known of these insects are the ladybird beetles. There are several species, most of which are named according to the number of their spots, but those most frequently met with are the "two spot" and the "seven spot." Both the beetles and their larvæ feed on aphides and young scale insects, and where they are numerous do great service by keeping these pests in check. The little red beetles are familiar objects to everyone and are generally protected, but it is necessary to be acquainted with their larvæ and pupæ. A search on any rose tree or currant bush which is infested with aphis will as a rule produce several of them. The larva (Fig. 1B) is generally grey in colour with orange spots, and can run quite quickly when disturbed; the pupa (Fig. 1A) is fixed to a leaf or stalk by the tail end and the colour is generally darker than that of the larva; there is also more orange red, but colouring and markings vary with the species in both cases; the general form, however, can be seen from the illustration. The eggs of the ladybird are laid in small batches on the underside of the leaves and are yellow in colour; their shape can be seen from Fig. 2.

Next to the ladybird the greatest enemy of the aphis is the hover fly. There are a large number of species, and both the flies and their larvæ vary considerably. Two common types of larvæ are shown in Figs. 3 and 4. They differ very much in appearance from the ladybird larvæ, and being legless, they move more slowly. They are just as ravenous, however, and when kept in captivity it is surprising to see the quantity of green fly one of them will devour in a day. Unlike the ladybirds, it is only in the larval state that the hover flies are so useful. The flies themselves are generally marked with black and yellow in varying proportions, and many of them have a strong superficial resemblance to a wasp. Like all flies, they can take only liquid food; they frequent flowers, visiting only those species where the nectar is accessible to short-tongued insects. They are called hover, or hawk flies, from their habit of remaining motionless in the air with rapidly vibrating wings.

The third aphis destroyer is the larva of the lacewing fly, but this is by no means so abundant as either ladybirds or the hover flies. The larvæ are active and have comparatively long legs; they are pale brown in colour with dark spots and short tufts of hair along the sides. Their general shape is somewhat similar to the ladybird larvæ, but they are widest in the middle, tapering towards both ends, and have prominent jaws.

The lacewing itself is a very beautiful insect, with four large gauzy wings, as its name implies. It has a thin delicate body of a bright green colour, and brilliant golden eyes. For this reason it is often called the "golden-eyed fly."

The most curious thing about this insect is the way the eggs are laid. They are usually found in groups of a dozen or so, are about one-twentieth of an inch long and white or pale cream in colour, but their peculiarity consists in the fact that each egg is attached to a long thread-like stalk about eight or ten times as long as itself. So extraordinary is their appearance that they look very unlike eggs at all and might easily be mistaken for some kind of fungus or vegetable growth.

Fig. 5 gives a good idea of their appearance when attached to a twig; the eggs here are shown natural size.

These three totally different types of insects are the principal devourers of aphides. We now come to the destroyers of caterpillars, the ichneumon flies, of which there are several thousand British species. These flies vary greatly, ranging from the size of a midge to nearly 2ins. across the wings. They usually have long, narrow bodies, and very long antennæ. The females are provided with a sharp-pointed ovipositor, which is often equal to the whole of the body in length. Their business in life is to find caterpillars and by means of their ovipositors to lay eggs within the bodies of their victims. The larger species lay one egg only in each caterpillar, the smaller ones a large number. The little grubs hatch out in a few days and feed within the body of their host, avoiding the vital parts for a time. The caterpillar, all unconscious of the fate in store for it, goes on feeding as usual and sometimes even manages to pupate before the ichneumon grubs destroy it. Its little enemies are soon full grown, however; they then devour the vital organs and eat their way out through the almost empty skin, immediately spin their cocoons all over it and pupate. These masses of yellow cocoons may frequently be found in the garden surrounding the dried-up remains of a cabbage-butterfly caterpillar. Fig. 6 shows such a mass of cocoons together with some of the flies which emerged from them. These small ichneumons undoubtedly do the greatest service in keeping in check the injurious caterpillars, such as the larvæ of the white butterflies.

Next come the ground beetles. There are many kinds of these, some of which do a certain amount of harm, principally to Strawberries, but both the beetles and their larvæ are mainly carnivorous, and devour all kinds of injurious larvæ found in the soil. The little harm they may occasionally do is certainly outweighed many times over by their usefulness, which the gardener should never forget.

The cock-tail beetle or devil's coach horse is another very useful beetle, and is a sworn enemy of slugs, cockchafer grubs, leather jackets and all soft-bodied insects which are to be found on or below the surface of the ground.

There are many other insects which are beneficial in the garden to a lesser degree, but those mentioned are the principal ones.

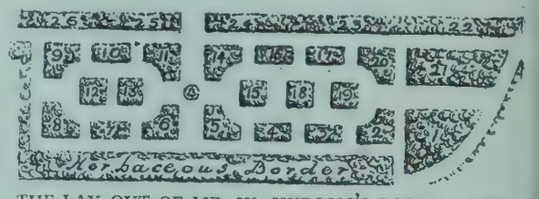
Dragon flies are entirely beneficial and harmless, in spite of the many superstitions regarding them; and wasps, although they cause damage to fruit at certain seasons and there is much prejudice against them, are without doubt useful to a great extent. It is true the wasps themselves are largely vegetarians, but their countless young are carnivorous and are fed very largely on an insect diet.

RAY PALMER, F.E.S.

A Suburban Rose Garden

ROSES should have the best possible position in the garden. It is useless to try to grow them under the shade of trees. The position should be open and sunny, where the bushes get all the air that blows.

Roses should have a place to themselves. It is next to impossible to bring them to perfection



THE LAY-OUT OF MR. W. HUDSON'S ROSE GARDEN

if they are mixed up with herbaceous plants or shrubbery. They require a certain amount of individual care, and that is why the amateur grower who does the work with his own hands so often holds his own against the professional gardener where a large staff is kept. Rose beds should not be so wide as to necessitate treading on the soil in order to cut the blooms, therefore narrow beds are the most convenient. Let the beds be simply parallelograms, say, 6ft. wide or thereabouts, and as long as desired. Straight

ows in the rose garden may be formal, but this s by far the most economical, practical and effective method of planting Roses.

Laying Out of Beds.—To illustrate the planning of a rose garden we cannot do better than refer to the accompanying plan and illustrations of the charming rose garden made by Mr. William Hudson at Surbiton. It will be observed that the beds have been laid out with only so much formality as is given by their regular shapes and balanced disposition. The beds and the paths are well proportioned. There are no brick or stone paths, but the Roses make little oases of colour in their setting of green turf. Well grown trees form a strong background, and in front of these, the boundary fences have hidden their barrenness behind a wealth of climbers of all sorts. Now grass paths are much better than gravel in appearance, and this is a point I would like all readers to note, especially those who contemplate the making of a rose garden. The main paths in this rose garden should not be less than 5ft. wide for the convenience of visitors and for the conveyance of water and liquid manure in hand-carts. In the borders in front of the climbers surrounding the rose garden are many choice herbaceous plants, particularly well grown Delphiniums, Phloxes, Hollyhocks and tall Evening Primroses in bold masses, the whole forming a charming setting for the rose garden proper. Each bed contains at least three rows of Roses. Roughly speaking, the plants are from 18ins. to 2ft. apart and about 18ins. back from the grass verge. For the purpose of providing flowers at those times when Roses are more or less resting, the beds have been planted with Violas or Tufted Pansies, and in some instances Carnations are intermixed with the Rose bushes, the latter giving a wealth of fragrant flowers for cutting that is only surpassed by the Roses themselves. This is the first garden in which I have seen Roses and Carnations grown together in the same beds. Both flowers are grown with marked success, and I pass on the hint for the benefit of others. In planting the small beds the owner has wisely used only one variety in a bed, so that a beautiful mass of one colour instead of the too common bizarre effect is obtained. Well over 200 different varieties are grown here, these being selected particularly for their freedom of flowering, good distinct colours and even contour. The large-flowered kinds which naturally produce their blossoms in clusters are vigorously disbudded, so that only the most promising bud is left on each stem, the result being that large flowers of perfect form are obtained. Roses should be planted fairly close for bedding purposes. The annual pruning prevents the plants from increasing very much in size. Where it is necessary owing to exigencies of space to grow more than one Rose in a bed it is advisable to keep the taller growing varieties to the centre. This arrangement will produce the finest effect when massed together. The distance between the plants will, of course, vary according to the vigour of the plants. Tall and strong growers, such as Hugh Dickson and Frau Karl Druschki, should be planted from 20ins. to 2ft. apart, whereas small growers may be planted as close as 15ins.

Here is a list of Roses in the beds shown in the accompanying plan: (1) At the back of this bed are planted American Pillar, Blush Rambler and Tea Rambler trained over high pillars and chains. The bush Roses in the bed are A. R Goodwin, Lady Alice Stanley, Richmond and Mrs. A. Ward. (2) The Lyon Rose; (3) Liberty; (4) Gorgeous; (5) Mrs. W. J. Grant; (6) Caroline Testout; (7) Sulphurea and Mrs. Wemyss Quinn; (8) Carmens; (9) Viscountess Folkestone (10) James Coey; (11) Mme. Abel Chatenay; (12) Mrs. W. J. Grant; (13) Josephine Nicholson; (14) Mrs. A. Ward; (15) Antoine Rivoire; (16) Mrs. Charles Russell; (17) Lady Hillingdon; (18) Marquess of Salisbury; (19) Maman Cochet; (20) The Lyon Rose; (21) Liberty; (22) Richmond, Rayon d'Or, Golden Emblem and Mme. Ravary; (23) Grand Duc Adolphe de Luxembourg; (24) Prince de Bulgarie, Hugo Roller, Paul Lédé, Mrs. Theodore Roosevelt and Pharisäer; (25) Lady Ashtown, Edward Mawley and Mme. Léon Pain; (26) Frau Karl Druschki, Mme. Léon Pain, Juliet and Hugh Dickson.

Golden Emblem is probably the best yellow of recent introduction. It makes the finest branching bush of robust habit and produces its shapely and fragrant flowers in clusters.

Where the situation permits, it is desirable to keep the rose garden as a unit, its main lines unbroken throughout. A wider stretch of green-sward may then mark the centre, emphasised still further by a figure, vase or sundial, not too ornate or overpowering. Circumstances vary largely, however, and in this case the garden has, probably because it was felt that its length would appear excessive contrasted with its width, been for practical purposes divided into two. The two parts have been, as it were, rejoined and their unity upheld by the use of a particularly suitable vase.

Care must be taken when growing Roses and herbaceous plants in juxtaposition that the latter are of clear bright colours which will bear the inevitable comparison without looking "muddy." Clear blues, whites and pale yellows with an abundance of foliage plants usually look best.

THIS CORNER VIEW SHOWS CLEARLY THE ARRANGEMENT.

THE FLORAL QUEEN AND SOME OF HER TALLER SUBJECTS.

NEW AND RARE PLANTS

GLADIOLI predominated among the novelties at the Royal Horticultural Society's meeting on August 9. For the most part they did not show any marked advance on the older varieties, though one or two were of brilliant colouring that would be effective either in the garden or as cut blooms. When critically inspected they disclosed a lack of substance, and as this would render the blooms liable to damage from heavy rains or rough winds, it was realised that the judgment of the Committee in passing them over was sound.

Gladiolus Byron L. Smith is distinctly on the small side for a variety of gandavensis type, but it is a shapely spike, and the dainty, light pinkish mauve colouring will appeal to lovers of restful colouring. The bars of greenish yellow in the interior on the lower petals are somewhat uncommon in Gladioli and remind one of several of the hybrid Rhododendrons. Award of merit to Major Churcher.

Gladiolus Utopia is an improved Primulinus with larger flowers of very deep ruddy apricot colouring. Although the blooms are hooded in the manner typical of Primulinus, they are bolder and show themselves far better than in the typical plant. It is a very beautiful flower and one that would be admired either in the flower border or the house. Award of merit to Major Churcher.

Montbretia Pocahontas.—The improved Montbretias are not everybody's flowers. Far too often they are, at the best, only half hardy and, unless specially cultivated, are liable to deteriorate. This latest variety to receive award bears widely expanded, star-shaped flowers of good size, though not nearly so large as those of Star of the East, and there were several open on each spike. The reddish terracotta colour is relieved by a small pale orange zone. Award of merit to Mr. S. Morris.

THE NEW MONTBRETIA POCAHONTAS.

Lælio-Cattleya Golden Glow.—This wonderfully beautiful Orchid is aptly named. The perianth segments are of rich, glowing orange colour, and the carmine lip is lightly edged with gold. First-class certificate to Baron Schröder.

NEW FRUITS.

Black Currant Daniels' September Black.—This splendid variety received an award of merit in 1916 and now has the highest award of a first-class certificate in recognition of its great merits. Even in this most difficult season the long bunches were studded with large Sloe-black berries. Shown by Messrs. Daniels Brothers, Limited, Norwich.

Apple Maidstone Favourite.—Although not precisely a new Apple, the three baskets of beautifully coloured fruits attracted a deal of deserved admiration. The conical fruits were plentifully flushed with red, and although not of first-rate flavour, it is quite pleasant eating. Shown by Messrs. Bunyard and Co.

THE NATIONAL HARDY PLANT SOCIETY'S SHOW AT MARKET BOSWORTH.

ONE of the aims of this Society is to encourage artistic staging. Groups of hardy flowers, instead of being crowded on to staging, are arranged on the ground to represent growing borders, and the first prize exhibit, put up by Messrs. T. B. Grove and Son, of Sutton Coldfield, was a capital effort. Among a varied range of seasonable flowers, a new Helenium was worthily given prominence. It is named Wyndley. The growth is tall and erect; the flowers are of good size, freely produced, and are of rich yellow with slight shading of red and prominent dark brown discs.

The silver cup for the best exhibit in the Show was awarded to Mr. Frank Bouskell, Market Bosworth, for a charmingly arranged water garden. The most striking feature was that a large number of native weeds and wild plants were so cunningly arranged around the pool that the exhibit looked as though it was a permanent and matured corner of a natural garden. The pool contained several choice Nymphæas, and low, sloping rock banks were well planted with Ferns and flowering plants.

The same exhibitor received a gold medal for an extensive group of border plants, and among the subjects here shown was a novel Centaurea raised from seed sent from Salonica during the war. The name is Centaurea Scabiosa Macedonica. It has heads like a double Cornflower, the colour being that of polished mahogany. Another gold medal group of border flowers came from the Chalk Hill Nurseries, Reading. Eryngiums, Echinops, Statice, Gypsophila and several other subjects that can be preserved for winter decoration were prominent features. The Chalk Hill Antirrhinums won first prize in the class for a group arranged to represent a bed, a method of showing that demonstrates their great decorative value in the garden. Messrs. Harkness and Sons had a glorious bed of Gladioli. Mr. G. Hollis, Market Bosworth, was very successful in the amateurs' classes, and we were much struck with his single vase of Linaria repens Snowflake, which was first for any one kind of hardy perennial. It is a flower for table decoration *par excellence*.

An apparatus for displaying flowers, exhibited by Mr. John Pinches, Camberwell, London, received an award of merit. It will be a boon to exhibitors. Funnel-shaped tubes can be fixed at any height or angle to an upright standard of stout wire, and the whole apparatus can be packed into extremely small compass for transit.

Further Notes on Feeding Fruit Trees for Annual Crops

(*In answer to a Correspondent.*)

IN the absence of accurate knowledge of the soil it is not possible to give definite advice on this subject; hence the suggestion of a complete analysis or of observant experiments. Proceed on the basis of superphosphate of lime, four parts; sulphate of potash, three parts, (four parts on a sand), and nitrogen, two parts, or, perhaps, three parts on a poor soil. The first and second named are easily procurable and present no difficulties. To provide nitrogen is more trouble, because of the wide variability and its exciting action on growth, which may lead to grossness instead of fruition. The best sources are dried blood and meat meals with values wholly dependent on guarantees. The proportion for use must be based on these as compared with nitrate of soda, which is essentially a stimulant. The "part" of nitrogen must vary, therefore, with the nitrogenous value of the guarantee. The dressing should be 3 ozs. to the square yard pricked into moist soil, maintained moist, for trees on dwarfing stocks; and 4 ozs. per square yard for the deeper rooting "free" stocks. (As a matter of fact personal experience has proved superior results on standard trees from natural liquid manure in crowbar holes filled at intervals of twelve days for ten weeks over those treated with the special dressings so admirable for bushes and pyramids on dwarfing stocks. The holes were 2½ft. deep and 2½ft. asunder in all directions from near the bole to 1½ft. beyond the extreme spread of the branches.) Neither basic slag nor several different compounds of "chemicals" have proved of measurable value, the former because it is so purely of autumn dressing utility, and the latter because the nitrogenous content is inorganic and usually extremely volatile, stimulating, in fact, which we do not want at this juncture, instead of feeding, which we do want. If bone meal is used its value must be measured by the guarantee of soluble phosphates and nitrogen.

CORRESPONDENCE

THE CULTURE OF PRIMULA ROSEA.

THE mention of certain peculiarities of the beautiful Himalayan Primula rosea recalls the fact that its good prospects in the garden are too frequently jeopardised by planting it in positions much too wet for it. It may be that a certain stagnation ensues, or that the quality—hardness, for example—of the water is at fault. Be it what it may, for a plant so readily grown and increased there is room for experiment. Often enough it is a failure, wholly or in part, in the artificially arranged bog garden, while in naturally moist or cool places it is quite a success. Raising the plants so that the roots reach water is a good way of turning failure into success, while in the shaded position treating the ground generously with cow manure and leaf-soil will often result in plants of the greatest vigour, which in their day will flower admirably. Which is the better way in every locality is a problem gardeners must solve for themselves, though a safe plan is that of having more than one string to one's bow. —E. J.

A BRILLIANTLY COLOURED GREENHOUSE PLANT.

THE Mimulus-like flowers of that semi-climbing plant, Diplacus glutinosus, are so attractive that one would imagine if only for their unique colour—a rich orange gold, flecked in the early stage with carmine—the plant would be popular in most greenhouses. It is not, however, grown nearly so much as it used to be a few decades ago, when gardeners were at some trouble to train the slender twining growths over half circular wire shapes. It is a plant needing but the "standard" compost, viz., old loam, leaf mould and sand, and to be grown under temperate conditions to have it in full beauty for many weeks in the summer. Formerly Diplacus glutinosus used to be employed as a bedder with very charming results, the blossoms being, if anything, more intense in colour. It was with much interest that it was noticed growing out of doors and doing well, notwithstanding the drought. It provides a colour very unusual in a garden.—CLAREMONT.

HARDY PRIMULAS IN CULTIVATION.

WITH reference to Captain Hawker's note on Primulas (page 395) it is easy to keep plants moist if there is a natural water supply, and no doubt Captain Hawker has got this and is not dependent on surface moisture. Primulas like moisture, but I think it must be moisture that keeps sweet and does not lie and get stagnant. I have not done much with P. Littoniana so far and have not wintered it out of doors. Possibly the South Devon climate suits it better than the colder and damper parts of the country. P. vittata is easy to grow, seeds freely and is easily increased by division. Captain Hawker, in referring to Lissadell Hybrids, probably means what are known as "Asthore Seedlings," *i.e.*, the Beesiana and Bulleyana crosses. [Undoubtedly.—ED.] Lissadell Hybrid is Pulverulenta × Cockburniana, of intense scarlet, varying very slightly in colour. Thank you, Mr. Editor, for the information *re* producing pink forms of P. Mrs. R. V. Berkeley. I hope it is correct, though I fear that many of the typical Pulverulenta will appear even in the pink × pink seedlings; but is it not a mistake to say "No Primula can possibly be self-pollinated?" Does it refer to the divided pink form which you mention—in other words, these pink forms are self-sterile. Yet you say that "both (pink) forms are fertile." Is this to mean self as well as other pollen will set seed. I have saved seed set both ways, but the "selfed" plants did not produce as much as the others.—G. H. DALRYMPLE.

[It is surely a universally admitted biological fact that all thrum-eyed Primulas must be fertilised with pollen from a pin-eyed plant before they can produce seed and *vice versa*. Assuredly practice bears out theory in this connexion so far as concerns these pink forms of Primula pulverulenta, though stray grains of pollen on the brush may have caused seed to set and mystify our correspondent. In saying that these pink forms were fertile (not self-fertile) nothing further was, of course intended than that suitably fertilised they produced seed, which was apparently against our correspondent, Captain Hawker's, experience. Many hybrid plants are, of course, sterile.—ED.]

SOME WELL GROWN DELPHINIUMS.

THE enclosed photograph may be of interest as illustrating one of the most effective and stately of our garden occupants. Grown in good loamy soil and sheltered from high winds it is very charming indeed. Notwithstanding all the hybridising which has been done, one of the most charming is still, in my opinion, the old-fashioned Bella Donna, which for garden decoration is hard to rival. If the flower stems are cut over immediately after flowering and a slight top-dressing given quite a pleasing autumn show of blooms will, I find, result. A small quantity of seed, saved only from the best plants, sown in a cold frame and pricked out in due course into the open border gives charming varieties. As to staking, a circle of sheep-netting with a few strong canes wattled through the mesh and driven firmly into the ground when the plant is some 18ins. high gives ample support and does not disfigure the foliage; or branches of Larch driven firmly into the soil like Pea sticks so as to surround the plant at the same period form an equally good support. The plants in the illustration have been treated in this manner, and I think your readers will acknowledge there is no disfigurement.—FORMAKIN, *N. B.*

TOWERING SPIKES OF AZURE AND PURPLE, MAUVE AND INDIGO.

A HUGE PURPLE BEECH.

THE great Purple Beech at Cottingham House was described by the Rev. Charles Overton, in "The History of Cottingham," published in 1861: "By far the most magnificent Purple Beech in the parish, and perhaps in the whole kingdom, is the one in the grounds (of Cottingham House). The gardener conceives it to be about 70 years old. Its stem, completely hid by its branches that rest on the ground, is 11 feet round the boll; it entirely covers with its dark, deep, waving foliage, a circumference of 230 feet; and it rises, from one unbroken mass of impenetrable shade, in the most elegant and graceful form, to the height exactly of 48 feet. It is still in its most vigorous growth, and bids fair to become still more wonderful and beautiful than it is at present. All who look at this tree, must fully concur with Sir T. D. Lauder, in regarding 'a noble beech as one of the most magnificent objects of God's fair creation.'" Sixty years later the tree still flourishes. Its height to-day is about 53ft., the circumference of the trunk at 18ins. from the ground 11ft. 9ins., and at 1yd. from the ground, 10ft. 11½ins., but its most remarkable feature is the extreme length of the branches. The tree is well shaped and developed on every side. On the east side an alley or pergola, running north and south at a distance of some 10ft. from the trunk, has been formed by supporting the branches on an artificial framework of wood. The total length of this alley from the northern to the southern tips of the supported branches is 113ft., and every four or five years it becomes necessary to extend the framework as the branches grow still longer and heavier. Beyond this alley, to the east, the branches cross two walls enclosing a former public footpath, and overhang a neighbouring garden, where they are again supported to form an arbour. The western semicircle of branches rests on the lawn, where two or three appear to have taken root, and are making vigorous upward growth. With a sheet of Bluebells underneath it is a beautiful spectacle when the first rosy leaves are appearing in the spring, but later the tree becomes almost too dark and black. A fine weeping Ash has been well planted to afford a bright green contrast. The stem of the beech tree is deeply corrugated, containing, in fact, eight distinct divisions, and the

branches cross and recross in a peculiar manner. Even the roots are abnormal, one at least completing above ground a semicircle round the trunk of the tree. From its earliest days the growth of this Purple Beech must have been unusual. Now, more than once, of late years in this garden we have found a year old growth of young Beech trees, closely entangled, apparently a forgotten mouse's hoard, which have taken root together, and which if undisturbed would grow rather as one tree than many. We wonder if the great Purple Beech had a similar origin. The theory is borne out by all the details of its growth—the entwined roots, the furrowed stem, the entangled branches and their great length all the energy of each seedling tree being thrown out in its own limited direction. We are always pleased to show the tree to anyone interested.—RUTH BICKERSTETH, *Cottingham, East Yorks.*

[Our correspondent's theory of origin is so plausible and explains the circumstances so naturally that had the tree been a common Beech it might have been accepted as almost proven fact. The Purple Beech does not, unfortunately, come true from seed. A large proportion of the seedlings turn out almost green and among the others many different shades are to be found. It is hardly probable that eight different seedlings in one cluster would be so alike in habit and colour as not to be distinguishable apart or indeed that eight seedlings would all grow side by side at a rate so approximately equal or that they would ultimately coalesce. Trees, with age, often lose their cylindrical shape through corrugation of the trunk, and this is probably what has taken place in this instance, or the unusual shape may be due to mutilation of the tree in its early days.—ED.

A LETTER FROM NEW ZEALAND.

A NOTE of mine referring to the Puka (Meryta Sinclairii) published in your paper some considerable time ago brought enquiries from several readers, and, thinking that an illustration of the tree as a garden subject may be of further interest, I send a photograph of a typical specimen growing in the grounds of a neighbour, Mr. Ernest Yates, seed merchant. This specimen is about twenty years old and, having been planted in an open situation, has developed its characteristic symmetry of form, providing ample and grateful shade in hot weather. The large leathery, glossy leaves (9ins. to 20ins. long and 4ins. to 10ins wide) withstand rough weather, but are susceptible to frost. Still, I think it should be worth trying in warm situations in the South of England and Ireland. I send also photographs of another native of different type, which, though very common in the wild, is not often seen in cultivation, viz., Pomaderris elliptica, native name Kumarahou. It grows freely on the green lands north of Auckland, where it is known as Poverty Weed, as it thrives on the poorest soil; also as "Gum-digger's Soap" on account of the property the flowers are said to possess (I have not tested it) of producing a lather. The specimen illustrated is growing in our garden from seed gathered in January, 1916, and flowered within three years. The elliptical foliage—2ins. to 3ins. long—is handsome, and the blooms of a pretty buff yellow shade are borne in large terminal cymes on every branch.—A. E. GRINDROD, *Auckland, New Zealand.*

A COUSIN OF THE IVY, MERYTA SINCLAIRII.
The characteristic inflorescences should be noted.

"GUM DIGGER'S SOAP," A PRETTY NEW ZEALAND WILDING

KALE FROM CUTTINGS.

TALKING to a man one day in the early part of August, who was busily engaged dibbling in shoots of Kale which he had cut from plants that had stood from last spring, I elicited the information that in consequence of so many failures with Winter Greens planted out a few weeks previously, he had been obliged to fill the vacancies with shoots from his Hardy Sprouting Kale. He assured me that he has followed the plan in other years and was confident of success, as, the ground being in a moist condition from recent rain, the cuttings would not be long in taking hold. I do not think the practice is well known or followed and shall watch the result with interest. I may mention that his old stock of plants were propagated in a similar manner. With the wholesale failure in so many places, the plan is, I venture to think, worthy of adoption.—L. W.

THE HAILSHAMBERRY.

A FEW years ago I planted some canes of the Hailshamberry, which differs from the superlative type of Raspberry in that the fruit is larger and comes into full bearing later than a Raspberry, cropping well into September, and even in October when the autumn is mild. A couple of seasons ago I was able to gather quite a nice dish of fruit from canes planted on the south side of the garden in November. It seems rather surprising to me that the Hailshamberry has not attained much popularity, as I seldom meet with it, most people, apparently contenting themselves with the older type. Raspberries, in most quarters, have suffered severely from the drought, but judging from the appearance of the Hailshamberries to-day (August 4), after several days when rain has fallen, there is a promise of a crop, though not so plentiful as in previous years. It seems a pity that the newer arrivals are not more widely cultivated.—W. LINDERS LEA.

FEEDING APPLES FOR ANNUAL CROPS

THIS is a very good article (page 367) and will carry conviction to all who read it. Mr. Lodge says "the food must comprise the accepted essentials—potash, phosphates, nitrogen"—he alos speaks of "organic nitrogenous material," and I think it would be very helpful if Mr. Lodge would write a *further article* suggesting the quantities to be used for this July-September feeding of fruit trees, also materials. If he would kindly indicate what chemical manures to use and the quantities per square yard, say both for small trees on paradise and quince, also standards, it would be most useful. I know that it would not be much good applying basic slag in July, as its action is slow, but I do not know whether super-phosphate dissolves quickly enough to be of use during the summer, and Mr. Lodge emphasises the necessity of using elements which will give a prompt response. I know this matter must be dealt with according to circumstances, but some such guidance would be most useful. The quantities given could be modified in practice as might be found necessary. Mr. Lodge, I feel sure, will not regard this as finding fault with his article, but as asking for further help

on the part of one who, though interested in the subject, has very limited knowledge.—H. Hubbard.

[Mr. Hubbard's letter was submitted to our contributor, and his reply, which should be of very general interest, appears on page 420.—Ed.]

A PLEA FOR PRODUCTION.

PRODUCTION, we are told on the highest authority, combined with economy is the only power which can save our country from dire distress in the near future. To no form of industry should this appeal with greater force than to that of horticulture. In our gardens, large and small, opportunities fall in every day by one exhausted summer crop or another being removed. Let us, then, see to it that the land so cleared does not lie idle for a day longer than can be helped; for let us remember that there is yet time for such land to produce valuable crops of food plants before Nature retires to rest. The Turnip, humble though it may be considered, is at this time of the year one of our most valuable crops to sow. If a large breadth of land is now sown the roots will be available for use within six weeks or two months time; later roots of the same sowing will last through the autumn and early winter, and those left may be stored for late winter and spring use. Should winter Greens prove scarce in spring, the roots may be planted in boxes of soil and placed in warm, dark cellars and other such places, with the result that useful crops of Turnip tops are available for a long time. It is not necessary to manure the soil for this crop; the roots will be hardier when grown in soil not too rich.—O. T.

[Our correspondent's plea for maximum production is one which will be universally endorsed. Where there is a shortage of vegetables for winter use every effort should be made to overcome it. On the other hand, the early maturity of crops this season is giving a splendid opportunity of letting the sunlight into the soil. The fertilising effect of fallowing land is well known, but the knowledge is insufficiently acted upon by horticulturists.—Ed.]

STREAK IN SWEET PEAS.

THIS appears to me to be periodically epidemic. Shortly after the National Sweet Pea Society had become firmly established, and stems 24ins. long, carrying four and even five misplaced, floppy monstrosities, travesties of what perfect Sweet Peas should be, had received encouragement at the major and minor shows, the cry of "streak" rang through the land. Few growers knew what it was, and few know now. It was a handy word, slipping smoothly off the tongue. The scare died down; the epidemic was over. A few years later a second one came, and again the country was alarmed—pessimists saw clearly the extinction of Sweet Peas. During the great war, when plants and men lived more natural lives as far as simplicity and quantity of food were concerned, we heard as little of streak in the Queen of Annuals as we did of appendicitis in human beings. Both are again bulking in their respective kingdoms now. Trouble will come in excessively fed Sweet Peas, especially where organic manure is exclusively relied on. If the latter is applied to constitute the necessary base, and food deficiency is made good with concentrated fertilisers, the plants will grow amply strong enough to produce flowers suitable alike for exhibition and for decorative purposes at home. Probably 80 per cent. of the collapses in Sweet Peas are due to causes other than streak, which is comparatively rare and local, but they are attributed to that disease through lack of knowledge. Streak is, in my experience, incurable.—Horace J. Wright.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Ceanothus Gloire de Versailles.—A good shrub for mid and late summer is Ceanothus Gloire de Versailles, and it matters little whether it is grown in standard tree form, bush or against a wall, the results are all beautiful. An excellent example of this shrub treated as a bush may be seen at Kew. When flowering is finished, wood not required for extension may be cut half back, and, finally, spur-pruning should be carried out by the end of February.

Pentstemons.—Although these plants have withstood the drought very well, the supply of cuttings will be somewhat limited unless watering can be done and the hoe used frequently to encourage a freer growth. The spent flower spikes should also be removed.

The Kitchen Garden.

Beetroot.—Should any of the earliest sowing of Beet still remain in the ground, they must be taken up and removed to a cool store and placed in slightly moistened sand. If left later than this in the ground the roots are apt to become coarse and woody, making them quite unfit for table use.

Spring-sown Onions are ripening much earlier this season, and when it is clear growth has finished, they should be taken up and thoroughly dried previous to storing. The spring Onion crop has varied considerably in some districts, but generally the yield will be lighter than usual this year, although we may confidently expect the bulbs to keep well. Autumn Onions, on the other hand, have done splendidly and, if well harvested, will meet requirements for some months.

Runner Beans.—Keep all pods regularly picked as soon as sufficiently large, and, if not required for immediate use or sale, place in a cool and somewhat damp store, in which they will keep fresh for several days. This vegetable is a great help in maintaining kitchen supplies, and it is one of the crops which does repay watering where this can be done, and a good mulch is also of immense benefit in maintaining the plants in a flourishing condition.

Leeks.—Make another good planting for late supplies in holes made with a crowbar. Plant a foot apart and 15ins. between the rows. Make the holes sufficiently deep for the plants to have a well blanched stem of 9ins. to 12ins. Fill each hole with water after putting the plants in, and afterwards keep the ground well hoed.

The Hardy Fruit Garden.

Early Pears as a rule are poor keepers, and nothing is gained by a long period in the fruit-room. It is better to protect, where possible, from birds and allow them to stay on the trees, gathering only a few days before using them. Wasps also are a nuisance and must be battled against by destroying them in their nests with cyanide of potassium, and by trapping them in bottles of sweetened beer hung among the branches of the trees. Several distressing fatalities have recently occurred through the misuse of cyanide, and it should always be kept under lock and key when not in use, as it is a most deadly poison.

Plants Under Glass.

Bulbs for Forcing.—In addition to Roman Hyacinths, other bulbs serviceable for early work may include the Miniature Hyacinth, Paper White Narcissus and the Duc van Thol Tulip, all of which of those required should be procured and potted in good time. To enumerate all secondary and later kinds is unnecessary, as personal tastes and requirements of the establishment must be the guiding factor in making a selection. To mention a few varieties among Narcissus, Princeps, Golden Spur, Emperor, Empress and a few Leedsii can always be relied upon; while among Tulips, Thomas Moore, Proserpine, Pottebakker, Prince of Austria and Couleur Cardinal are all admirable for pot work. All bulbs after potting should receive one good watering and then be covered over with several inches of fine leaf-soil or similar material until the pots are well filled with roots.

Richardias.—The roots of Arums which have been resting in pots should be shaken out and potted up in good fibrous loam to which has been added some decayed leaf-soil and some sand. A portion of those which were planted out may also be taken in hand. The potting of the plants may be spread over the next six weeks, according to when plants are required in flower. Where large batches of Chrysanthemums are grown for decorative work for Christmas and the New Year, it is advisable to hold back the main batch of Arums to succeed the late white Mums in February, March and April. Pot moderately firm, and stand the plants on a firm bottom under a wall where it is an easy matter to arrange for a light covering during cold nights.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Where Celery has been growing freely it may now be partly earthed up, first of all going through the trenches and clearing away any superfluous growths that may be showing round the heads. Drought has played havoc with many trenches this season, but now that we have got abundance of rain the later planted lot may yet prove the best. Where the Celery maggot has appeared give a dusting of soot as advised in a previous issue, at the same time picking off the worst of the infected foliage. Encourage later crops with a light dressing of a quick-acting fertiliser.

Cauliflowers.—In gardens where the sowing of Cauliflower in the autumn is practised the work may be carried out now. Early London and Walcheren are two commendable varieties for this purpose. It is not necessary to sow in quantity as in our western district it is customary to transplant the required number into a cold frame and winter in this way. In very sheltered gardens the remainder may be pricked out at the foot of a south wall, protecting during severe weather with light Spruce branches.

Brussels Sprouts and Savoys may also be sown now for spring planting, and as they are much more hardily constituted than the Cauliflower they should be allowed to take their chance in the open. Sow the seed thinly and thus encourage sturdy growth.

The Weather.—After an almost unprecedented spell of drought in this area we have again had our full share of rain, as during the last ten days of July we registered 5.18ins., and for the first two days of August we had close on another inch. Results are noticeable in the quick growth of plant life, while weeds especially have made themselves more aggressive than ever. Small fruits have suffered from the constant wet and a good deal of damage was also caused by wind storms.

Plants Under Glass.

Tomatoes.—Early crops will now be nearly over so should be cleared out at first opportunity and so pave the way for other subjects. Borders in houses where Tomatoes have been grown may be used with advantage for planting winter-flowering Chrysanthemums that have been grown in outside borders with a view to this method. Excellent results may be looked for provided the plants are carefully lifted and showing bud at the time. It is noteworthy that only certain varieties of Chrysanthemums are adapted for growing on in the open and lifting in this way during the autumn. We find Finch Bronze, Souvenir and Niveus do well while Framfield White is one of the best for early work inside, being just too late for flowering in the open with us.

Tuberous Begonias.—Plants having been grown for autumn decoration will now be coming into flower so should be assisted with applications of manure water. They seem to revel in liquid manure from the byre, alternated with Clay's fertiliser. Keep them in a light and airy position so that damp is kept in check. Shade from strong sunshine and their flowering proclivities will be agreeably prolonged.

Malmaison Carnations.—One year old plants which are past flowering should now be potted on according to the strength of the particular plants. A suitable compost may be made up of good loam, sharp sand, wood-ashes, crushed oyster shells and a light sprinkling of bone-meal. See that the pots used are thoroughly cleaned and the drainage correct. After repotting place in a well ventilated frame, exercising care in watering. Layers from the parent plants will also soon be ready for potting up; in this instance 4in. pots should be used. A similar compost to that recommended for the older plants may be used, with the exception of the bone meal, which should be withheld until the next shift.

Freesias.—Batches of these delightfully fragrant plants should be potted up at intervals during

August and September. If 5in. pots are used about eight or nine bulbs to the pot will be enough Use a mixture of sandy loam and leaf-mould, with a little thoroughly rotted manure. Place in a cold frame for a period and so encourage a firm growth.

The Flower Garden.

Propagating.—Cuttings of various subjects in the flower garden must be got in now, such as Pelargoniums, Marguerite Mrs. Sanders, Fuchsias and Heliotrope. The sooner these are secured and rooted the better.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

The White or Weymouth Pine

UNTIL of late the value of the Weymouth Pine as a timber-producing tree in this country has been overlooked, though we have frequently directed attention to the magnificent specimens that are growing at Gwydyr and Penrhyn Castle, in Wales, on the Woburn Estate, Bedfordshire, and at Holwood, in Kent. Taken as a whole the Gwydyr trees are probably the finest of their kind in this country, the average height being 90 feet, while five of these trees which were measured lately contained fully 1,200 feet of excellent timber and girthed up to 10 feet at a yard up the stem. These are indeed noble specimens, the straight boles rising branchless for nearly half their height. The soil in this case is loose shaly rock and the position by no means sheltered. In thinning a plantation on Lord Derby's property recently, planted twenty-five years and composed of the Weymouth, Corsican, Austrian and Scotch Pines, the Weymouths were found to have attained to a height of 42 feet with an average cubic content of 60 feet. At Longleat where the tree has been grown extensively there are many large specimens.

By far the largest area of the Weymouth Pine that we have seen is in Surrey, where in company with the Scotch Pine, there are several acres growing on what might best be described as moorland soil. The plantation was said to have been formed about sixty-five years ago, and though the trees vary considerably in height and cubic contents of timber yield, yet the total amount per acre is considerable. Some of the trees contain 90 cubic feet of timber, and the lowest average per acre might be estimated at 4,500 cubic feet. The trees have succeeded best in damp depressions, those on the light, poor and warm soils being scrubby in growth. In several plantations the Weymouth has reproduced its kind freely from seed and advantage has been taken of this method for restocking.

Regarding home grown timber of this Pine we have had considerable experience during the past thirty years. It is of fine grain, also light, clean, nearly white in colour, soft and easily worked, and a comparison of home-grown timber from a tree that contained 90 feet of wood with that sent from abroad, revealed but little difference. Under the name of white or yellow pine the wood of the Weymouth is largely imported to this country and, though not durable for out-of-door work, is much sought after in the making of furniture, table tops and wherever a smooth face is required.

In connexion with this tree it should be borne in mind that the timber is usually decayed at the heart from warm, light soils. Such was the case throughout a plantation at Penrhyn Castle.

There is no fixed market for the timber of this Pine, though in Kent it realised a similar price per foot to that of the Scotch and Corsican. For afforesting purposes it is to be recommended.

A. P. WEBSTER.

The Preparation of Land for Fruit

Most text books say, in effect, that when land is under preparation for fruit it should be dug thoroughly to the utmost possible depth and manured according to its fertility. Modern experiments and experiences raise doubts as to the soundness of this advice. The subject is one of great importance and it is brought forward for considered discussion at the season of the year when it will be productive of the most practical utility.

FRUIT planting will commence in October and proceed when the condition of weather and soil permits until the spring. November is, perhaps, the best month in the year, but the work has been accomplished successfully at all times to the end of April, and even later than that on occasions. We are not now concerned with the details of planting, because this will be a more seasonable subject four or five weeks hence, but solely with the foundation work which lies in the preparation of the sites. The point on which a decision must be reached is whether trees will be more profitable when planted in a very deeply worked, ameliorated soil or in a medium that is cultivated to a depth of a foot only, all below lying quite solid. The wisdom or otherwise of adding manure may be ignored for the nonce.

The generally accepted rule of private gardens is to open up the soil to its full cultivable depth some weeks in advance of planting, and it is assumed that in the interval there will be settlement to the essential firmness. The advantages rightly claimed for very deep soil are equability of moistness and of temperature, with sweetness—the passage of water is free, and the danger of total dryness or soddenness is reduced to the minimum. These are accepted as the perfect conditions with which the roots of fruit trees should be encompassed.

To what type of root development must such soil conditions conduce? To answer the self-put question requires only one word—luxuriant. Herein lies the strongest argument against depth and friability of root-run. It is recognised that in all circumstances the tendency of a young fruit tree during its first year in permanent position is to grow too rampantly at the roots, with corresponding exuberance in the branches. These conditions do not lead to fruitfulness; on the contrary, their trend is directly towards barrenness. To check the luxuriance the inexperienced grower cuts all the shoots hard back, which spells multiplication with no appreciable loss of strength, and he finds quickly that the second case is far worse than the first. The experienced grower knows that he must deal with the position below as well as above ground; the vigour of the branch running hand in hand with the vigour of the root. He lifts the tree and replants it firmly; or he lifts, reduces the strongest roots and replants firmly. His first desire is to check excessive strength in the roots, and he attains his object without serious difficulty. There will be, however, people who do not attach prejudicial significance to the straight, handsome, rod-like branches; indeed, they are delighted to see them, and they preen their feathers as they look upon the beautiful specimens. It is a beauty that is essentially false, because it does not lead to that which should be the life object of the tree—the production of perfect fruits in profitable quantities. Neglect of the simplest form of root pruning will entail the adoption of a much more elaborate system sooner or later before the trees turn to the serious business of flowering and fruiting.

It must not be thought that the mere act of lifting and replanting, even when root cutting is associated with the process, in the first autumn or spring after planting will cure trees of the propensity to grossness when their roots are ramifying freely in deep, friable ground. Assuredly it will not do so, and root pruning may easily become a periodical necessity of cultivation unless the trees can be persuaded to yield such heavy annual crops that these alone will act as an effective brake.

Writers of bygone days, knowing that the tree of thrifty root and branch habit was the only one which could be profitable, realised that there was something illogical in recommending the utmost depth and sweetest amelioration, because these conditions inevitably lead to luxuriance in root and branch. They advised, therefore, that a flagstone should be set beneath each tree to present an impervious base to the down striking roots, thus forcing them to lateral extension. The device failed to achieve its object, for the roots spread out over the stones, reached the sides and then struck downwards with no abatement of vigour. Hundreds of trees over stones have had to be lifted, root pruned and replanted without the stones—in the days of the late Mr. James Smith, the highly respected gardener at Mentmore, stones were removed from under all the fruit trees in the kitchen garden and put to a more useful purpose.

Very deep and thorough soil cultivation is a slow and costly undertaking; it leads to excessive root and branch growth; it delays the time at which profitable cropping ought to be reached; and it involves the additional expensive operation of root pruning. Are not, then, those growers wise who carry out the preliminary details on more rational lines? Recent experiments and experiences go to prove that the answer to this question must be in the affirmative.

Firmness to the point of hardness of the ground beneath the roots of fruit trees will conduce to the most profitable type of growth. The possibility that root pruning will be unnecessary will not be, even then, wholly obviated, but it will be reduced from an almost certain to an extremely doubtful position. Those who limit the cultivation to 1ft. or 15ins., leaving that below as solid as Nature has made it, will save time (which spells money) in preliminary work, and they will gain three years (perhaps more) in building up the profitable tree (which spells more money still). Firmness below must be, however, accompanied by firmness among and above the roots. Few of us could see eye to eye with the late Mr. Spencer Pickering in his conclusions as to hardness of planting, but many of us have long been convinced that the treading or ramming down is not carried to anything approaching the degree of heaviness that it ought to be by the majority of planters. The cost of time in spreading out all roots in a lateral, slightly downward direction might be more profitably allocated to increasing the solidity of the soil round the roots, leaving the latter to fend for themselves.

It will be suggested that such shallowness will lead to serious waterlogging in wet periods. There may be some little danger of this, but it can be effectually prevented by draining at a cost much lower than that involved by the deepest and most thorough cultivation. It is suggested, further, that trees on shallow land will not live as long as those on very deep soil. Time and time only can prove the truth of this point. It may be said, however, that if trees have not paid for

their keep and left a fraction over for their grower in twenty-five years they are not worth having, and there are more than a few Bramley's Seedling Apples up and down the country which have carried upwards of one ton of fruits in a season at the age of between twenty and twenty-five years growing on heavy land which was dug to the depth of a spade only for their reception.

Manuring as a part of the preparatory treatment of land for fruit demands no exhaustive consideration. When sites are under selection those are chosen which are known to be of average fertility, and these will carry a tree through its first season without the incorporation of any manure in the soil or the spreading of any on the surface. The foundation should be laid on the plainest foods; the maintenance of the correct balance of fertility must be the subject of intelligent thought as the years roll on.

W. H. Lodge.

THE TRUE BROOMS

For soils in which they succeed—they are not a success in heavy loams—the Brooms are an invaluable family of plants, useful alike for rock garden and shrubbery. In the shrubbery their comparatively short life can be utilised to advantage by using them as stop gaps during the growth of more permanent subjects. They should always find a place in the heath or wild garden.

ALTHOUGH the species of more than one genus are popularly called Brooms, the term is, perhaps, better understood with reference to Cytisus than with either Genista or Spartium, two genera which are closely related to Cytisus, and in the following notes any species except those which belong to Cytisus are disregarded. All are small or moderate sized shrubs, the taller kinds growing from 6 feet to 8 feet high, while the dwarfest ones never rise more than a few inches above the ground. It is essentially a European family so far as hardy species are concerned, but two or three tender sorts extend to the Canary Islands. One species is a well known British plant, and is one of our most beautiful native shrubs. The majority of the species are old garden plants, but there are several hybrids which are of fairly recent introduction. It is probable that the future will see other hybrids, for most of those which are in cultivation are very ornamental. The Brooms are not, however, easily crossed by artificial means, though one or two kinds appear to cross readily by natural agencies.

Soil and Planting.—The soil most suitable for this family of plants is undoubtedly a light loam. They grow well in sand, but do not give such good results as when they are planted in better material. All should be placed in permanent positions while quite small, for they do not transplant well after they have formed vigorous branches. As a rule, the branch growth is out of proportion to the root development, and it is a wise plan at planting-time to place a stake to each plant, which is otherwise likely to be blown about. Some people prefer to keep them in pots until they can be placed in permanent positions, but that is not really necessary providing they are not allowed to stand more than two years in nursery quarters.

Propagation.—As a rule the species give the best results when increased by means of seeds, but varieties and hybrids have to be propagated by cuttings and grafts. Seeds may be sown as soon as they are ripe, or they may be kept until spring. If sown indoors they germinate quickly and are soon ready for potting singly. Cuttings of short shoots are inserted in sandy soil in cold frames during July or August, while grafting is practised in spring. As a rule, pieces of Laburnum root are used as stocks, and grafting is carried on indoors, the grafted plants being stood in a warm and close frame until a perfect union has been formed between stock and scion.

Pruning.—All the taller-growing kinds require to be pruned rather frequently while they are young, in order to induce a bushy foundation. Afterwards one pruning a year will suffice, that being given as soon as the flowers fade. They must not be cut back into wood older than one year, otherwise they will not break again well. Cytisus purpureus and C. versicolor may be pruned rather differently to other kinds, for they renew themselves by young shoots from the root-stock. In their case a quantity of the older branches may be cut right away. The Brooms may be used for a variety of purposes. They are excellent for shrubbery groups; they form handsome specimens beds; the commoner ones are useful for the wild garden; while the dwarf kinds may be used on the rockery with considerable effect.

CYTISUS KEWENSIS. A MOST DESIRABLE ROCK GARDEN SPECIES.

The Best for Rock Gardens.—Cytisus Ardoini is a charming little plant which scarcely attains a height of 6 inches, but forms a perfect carpet and bears its golden blossoms with great freedom. A native of the Maritime Alps, it has long been an occupant of our gardens, where it has proved useful as a decorative subject and as the female parent of several very useful natural hybrids. Of these, the two best are C. Beanii and C. kewensis. Both originated at Kew, the former claiming C. purgans for its male parent, and the other C. albus. C. Beanii is a semi-prostrate shrub, 9 inches to 12 inches high, with long, slender branches, which in May bear a profusion of golden blossoms. C. kewensis is an even dwarfer plant. Its long, slender branches are very effective when spreading over stones in the rock garden, while its cream-coloured flowers produce a charming picture in May. C. decumbens is another golden-flowered, dwarf kind, which is very beautiful when in bloom. It is a native of Europe, and is sometimes called C. prostrata. C. leucanthus, a low-growing shrub from the Balkan States, may also be grown in the rockery; its flowers are cream coloured and borne during May and June. The Eastern European C. purpureus should find a place in both rockery and shrubbery, for its pretty purple flowers are distinct and showy. Growing from 12 inches to 18 inches high, it blossoms freely from all parts of its gracefully arched branches. C. versicolor is a hybrid between this and C. hirsutus. Growing 2 feet high, it blooms freely, the flowers having a purplish shade and being very effective. Sometimes the dwarf kinds are grafted upon Laburnum stems, but the practice generally is not to be commended.

Taller Species and Varieties.—Among tall-growing sorts, three really excellent varieties first demand attention. The white Spanish Broom, Cytisus albus, forms a bush growing from 6 feet to 12 feet high. It is a native of Spain and Portugal. It blooms with great freedom, but, like most of the vigorous kinds, its best days are over by the time it is ten years of age, and it is wise to destroy plants which show signs of deterioration, and commence again with young stock. C. scoparius andreanus will be readily recognised by its golden and bronze flowers. It is a particularly attractive form of the common Broom, which was found wild upon a common in France about twenty-five years ago. The third variety, C. Dallimorei, has rosy-pink standards and crimson wings. It is less well known than the other two, and is of interest both on account of its attractive colour and as being the only hybrid Broom which has been raised by artificial cross-fertilisation. C. s. andreanus was the seed parent, the plant being grown [illegible]

and isolated from other kinds; pollen of C. albus was used. The hybrid grows quite 5 feet high, and is fairly vigorous when grafted upon Laburnum. Seedlings raised from it show a great diversity of habit, a few being true, some white, some cream, some golden. Some are good and others poor representations of the female parent. C. scoparius itself, though a wild plant, is a useful shrub in the garden, for its golden flowers are borne with great freedom. The variety sulphureus, sometimes called the Moonlight Broom, is also very attractive by reason of its sulphur-coloured blossoms, while the large-flowered, pendent-branched pendulus is also very pretty. C. præcox, a hybrid between C. purgans and C. albus, is a plant 4 feet to 6 feet high, which opens its cream-coloured blooms early in May. It is very free and showy. The golden-flowered C. purgans forms a dense bush 2½ feet to 4 feet high, and blooms freely, as also does C. capitatus, C. biflorus, C. hirsutus and C. sessilifolius. C. nigricans is worthy of more than passing notice, for its dark yellow flowers are borne in long terminal racemes from the current season's shoots in July. Its branches may be pruned back fairly hard in February. It requires rather richer soil than most kinds, and must be raised from seed every few years, for it is naturally a short-lived plant. W. D.

A Charming Bellflower for Pots.—Campanula fragilis and its near ally, C. Barrelieri, would appear, as pot plants growing in a sunny position, to have revelled in the heat and drought of the year, if their exceptionally free flowering may be accepted as the outward and visible sign. Even quite small plants have been more than usually well dowered with blossoms, the trailing racemes bearing many of the large blue to mauve salver-shaped flowers responsible for a goodly display. More frequently seen as window plants than elsewhere, these Italian kinds are naturally sun and warmth loving subjects, preferring in the garden, the sunniest places in rock-wall or crevice, where, dry in winter time, they also show to fuller advantage in their days of blossoming. Coming later than most kinds, they are valuable on this account. With age the subject of our note develops an arborescent stem, a characteristic at once distinguishing it from those of the C. isophylla set, though in other ways it is readily distinguished in or out of flower. Loam mingled with grit and old mortar rubble suits it well.

The Beautiful Alpine Gentiana Lagodechiana.—More than one species of this genus has suffered severely by reason of the heat and drought of the year, while this beautiful kind, if less vigorous and free than in years more congenial to vegetable life generally, has been flowering uncommonly well, so far as the writer's experience goes. And because of it and an amiable disposition which cannot be gainsaid, it merits recommendation as among the best blue-flowering plants of procumbent habit that afford pleasure during July and early August. The rich blue flowers terminating the stems are copiously marked by minute white dots at the bases of the corolla lobes, the sturdy growth being freely clothed with small ovate leaves. Possessed of the good attribute of soon forming a spreading mass a foot or more across and flowering abundantly, few members of the genus are worthy of more general cultivation. It is quite happy in a deep bed of loam, leaf-mould with a little manure added, and sufficient sand or grit to afford drainage. The flowers are about half as large as the common Gentianella.

The Relabelling of Hardy Plants.—A gardener's memory does not always improve with years, be he professional or otherwise, and few things are more calculated to make one irritable than suddenly to find out, perhaps in late autumn when, driven by instincts of tidiness, he is endeavouring to remove some of the flotsam and jetsam of the garden, that he has run his fork, or, worse still, his spade, through the roots of some choice herbaceous plant. It is, perhaps, even more exasperating to remember that one intended to mark the spot, and that in the absence of a "memory tickler"—to wit, a label—he has ruined, for a season at least, what would have been one of the pictures of the border. A bundle of labels, an indelible pencil and a spare hour will do much towards preventing such accdents that, after all, need not happen in any garden.

The Classification of Dahlias.—In the opinion of many growers the time has come to consider the classification of Dahlias with a view to making clearly defined classes to contain some of the newer forms, and the Royal Horticultural Society has welcomed the suggestion that a conference should be held in connexion with the trials now in progress at Wisley, where about 250 varieties, representing all forms of the flower, are growing. The Conference will take place at 3.15 p.m. on Wednesday, August 24, in the Laboratory at Wisley, and will be preceded by an inspection of the trials at 2 p.m. Byfleet Station (London and South-Western Railway), where cars may be hired, is the nearest station to Wisley, and there is now an hourly service of motor buses running along the Portsmouth Road between Kingston and Guildford, passing within three minutes' walk of the Garden, which travellers on the main line may join at Esher. The Director of the Royal Horticultural Society's Gardens at Wisley, Ripley, Surrey, would be glad if those desiring to attend the Conference would let him know so that ample accommodation for the meeting may be arranged.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

ROSE GARDEN.

ROSES FOR VARIOUS PURPOSES (E. W., Gloucestershire).—The following are the names of Roses suitable for a pergola and which will flower as continuously as any. Gruss an Teplitz, bright crimson; Scarlet Climber; Avoca, rich crimson; Ard's Rover, dark crimson; Christiné Wright, bright pink; Florence H. Veitch, scarlet; Lady Waterlow, blush, and Climbing Mme. Abel Chatenay, pink. Other good Pillar Roses, but which only flower once in the summer are Albéric Barbier, Blush Rambler, Tea Rambler, Emily Grey, Lady Godiva, Tausendschon and Conrad F. Meyer. If the Roses are cut down, as they should be, the first spring after being planted, they will make strong shoots that will go a good way towards furnishing the pergola the first season, so that annuals to cover the poles would scarcely be needed, nor is this advisable. It would be possible to successfully move the Roses three years after they were planted, but after that time the possibilities of it being worth while are reduced. The best Tea Rose for a south wall would probably be Climbing Lady Hillingdon, but brighter colour would be provided by such Hybrid Teas as Climbing Papa Gontier (crimson) or Lady Ashtown (pink).

TREES AND SHRUBS.

BARBERRIES NOT FRUITING (Dunmow).—If the failure to fruit freely is, as our correspondent suspects, due to poorness of soil, a top-dressing of good farmyard manure in the late autumn around the bushes, but not against the stems, would greatly improve matters. If manure is not readily procurable, basic slag at the rate of 6ozs. to the square yard and lightly forked in would improve the shrubs. In the early spring 1oz. of sulphate of ammonia and 3ozs. of superphosphate to the square yard would be beneficial.

THE GREENHOUSE.

TREATMENT OF BRUNFELSIA (E. D. D., Manor Kilbride).—It will depend on the condition of the soil and the size of the pot whether the Brunfelsia needs repotting. It does not require a large pot, and if the soil is sweet and the drainage in good condition, the removal of the loose surface soil and the addition of new compost to replace it will be sufficient. Should repotting be necessary, use a mixture of equal parts turfy loam, peat, leaf-mould and coarse sand. A greenhouse from which only frost is excluded is scarcely warm enough in winter for a Brunfelsia. If there is any difference, give the plant the warmest position in the house.

FRUIT UNDER GLASS.

PEACHES UNSATISFACTORY (A. M., Surrey).—The Peaches have suffered from shortage of water, and this has assisted the red spider, which has aggravated the trouble by its attacks.

TOMATOES UNSATISFACTORY (Rex).—The unequal ripening of the Tomato fruits is due to some deficiency in the supply of earth salts, in this case apparently potash, and we recommend watering the plants at weekly intervals with a solution of 1oz. of sulphate of potash to 2galls. of water.

GRAPES ATTACKED BY BUG (Constant Reader, Dumfries).—After cutting dip the bunches in warm water, not above 110° Fahr. Kill all the bugs seen by touching them with methylated spirit. Cleanse the Vines thoroughly during the winter of all old bark and paint over the rods with Gishurst Compound. Limewash the house with hot lime so as to get into all the crevices and scrub all woodwork with carbolic soap.

FRUIT GARDEN.

LOGANBERRIES (Felsted) may be grown round poles about 8ft. high, say six rods to each post.

APPLES ATTACKED (C. F., Ascot).—The brown mark on the Apple looks as though it has been injured by spraying in the sun. The scab can be kept in check by pruning out all diseased spurs and dying shoots during the winter and spraying the trees with Bordeaux mixture as soon as the buds burst and again after the petals fall.

FRUIT TREES AND GAS LIME (E. S. M., Whittlesey).—We fear nothing can be done with the fruit trees that are suffering from strong applications of gas lime except to prune out the dead and dying branches and to give a dressing of rich soil about the trees. It should be safe to plant next spring on ground which has been treated, provided it is well dug and exposed to the air.

SILVER-LEAF IN PLUMS (A. C. B., Stratford-on-Avon).—We are a little in doubt about the Green Gage as the shoots sent are only of this year. The others, however, are attacked by silver-leaf and should be rooted out, taking care in the case of the Victoria to get out all the suckers as well, as it is evident this has been attacked low down.

CORDON GOOSEBERRIES AND RED CURRANTS (W. C. R., Cheshire).—Trained cordon trees will cost more to start with than will bushes. Posts and wire fences are added items and their renewal from time to time will be necessary. The advantages possessed by cordons are that the fruit is cleaner, and as far as fruit for dessert is concerned, is of better flavour in consequence of better exposure to more sunshine and air. Moreover, the fruit can be more effectively protected from birds by netting. Bushes, no doubt, would give heavier crops, with a minimum cost of labour and other expenses. We would suggest that our correspondent should plant, say, three or four rows of cordons across the least exposed end of the quarter, planting them 14ins. apart in the row, allowing 4ft. between the rows. The compromise would give an interest to the experiment, without much added cost. Posts and wire supports would be suitable for cordons with rather more uprights introduced to make the fence more rigid. The fence should be 5½ft. high. Gooseberry and Currant bushes should be planted at distances of 4½ft. apart in the row. The rows being the same distances apart.

MISCELLANEOUS.

SOIL FOR EXAMINATION (Devon).—A dressing of lime upon the soil would be an advantage, and it needs the addition of considerable quantities of organic matter. The artificial manure mentioned by our correspondent will be useful, but it would be well to use all vegetable refuse and stable manure, etc., which can be obtained. Irises may be planted. October is by far the best month, for the planting of most things. The bulbs, however, should be planted (except Tulips) before the end of September if possible.

CHAMOMILE IN A LAWN (L. D. C., Sussex).—The presence of Chamomile on the lawn points to poverty of the soil. As the weed greatly predominates, the most satisfactory plan would be to remake the lawn and in the process clear out as much of the Chamomile as possible. But as this will probably be thought too radical a cure, an alternative plan would be to top-dress the lawn with finely sifted soil in the autumn, adding 3lb. of basic slag and 2lb. of kainit to each wheelbarrowload of soil, well mixing it before spreading it evenly over the surface. Towards the end of February another dressing of ½lb. of sulphate of ammonia, 2lb. of superphosphate and ½lb. of sulphate of potash mixed with each barrowload of fine soil and spread evenly would greatly improve the grass at the expense of the weeds.

NAMES OF PLANTS.—R. J., Coldstream.—Spiræa salicifolia.——V. A. C.—1, Cotoneaster vulgaris; 2, Origanum vulgare var. album; 3, Sedum spurium var. album; 4 and 5, Berberis sp., please send when in fruit; 6, Veronica macrocarpa alba; 7, Spiræa japonica alba; 8, Spiræa japonica; 9, Pyracantha angustifolia; 10, Clematis heracleæfolia. —— A. H. N.—1, Ceanothus

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NOTES OF THE WEEK

A LARGE number of new varieties of Rose are introduced each year, but of these but a moderate percentage are destined to take a more or less permanent place in cultivation, and even of these large number are of interest only to those who ultivate for exhibition. A description of some of he best of the newer Roses for cut-flower and garden decoration such as appears in this issue, hould therefore make appeal to large numbers of readers to whom the Rose is only interesting when of decorative value either indoors or in the garden or, preferably, in both.

Economical Horticultural Structures.—The promised article on greenhouse construction which now appears, while mainly of interest to those to whom economy in construction appeals more than æsthetic considerations, is worth the careful attention of those contemplating building glasshouses with every possible refinement and finish. An initial outlay greater than the absolute minimum is quite justifiable where taxation still leaves sufficient funds at disposal! and an inclination is felt that way. Purely wasted labour, on the other hand, such as is involved during the whole life of the structure when doorways are made of insufficient width or where ventilators are made to open singly when they could all equally well and properly be arranged to rise and fall together, tends unnecessarily to reduce the workers in such structures to machines, to say nothing of the actual waste of effort. That is a tendency which no one would consciously foster, which, indeed, no one *has the right* to permit. Another point worthy of consideration in this regard is the alleged ornamentation with which many greenhouses are still 'adorned." If many such houses quite recently [illegible] even numbers of those still in course of construction—have fussy filigree and other meaningless and redundant [illegible] attached to them reminiscent of the hateful smug Victorian epoch, the fault must not be laid to the door of the horticultural builder. It must have arisen from the [illegible]—but the latter—of his patrons. A famous present day writer on topics architectural is reported to have said *à propos* of greenhouse construction that "all greenhouses were eyesores, but those which were "ornamented" were hideous, and as for those by ——"—mentioning a firm famous for elaborate and ornate structures—but here words failed him! His criticism notwithstanding, it is hoped to treat in these columns at an early date of the treatment of the glasshouse and its arrangement in the garden so that, to say the least, it may *not* be an eyesore.

More Orders.—The commencement of the gardening new year, which was referred to on the "Notes" page a fortnight ago, becomes increasingly evident. Last week attention was called to seeds which should be procured and, in some cases, sown for next year's crops. This week the question of ordering in bulbs for the coming winter, spring and summer has become a pressing problem and is ably dealt with on another page. Further and more detailed articles on this subject will shortly appear.

The Ill-Used Lawn.—Next year's greensward also now needs consideration, since the season has arrived when new lawns may be formed; the season, too, when any renovation work which may prove necessary may be carried out. Alas! a great deal has still to be done to restore many once fine stretches of verdure to their pre-war condition. Much of such restoration must depend on the systematic and considered use of roller and lawn mower, each in proper place and season, and to dressings of suitable fertilisers, but where relaying or seeding is a part of the plan of campaign the coming month is the best in the year for the work.

Two Object Lessons.—The subject of our illustration this week, a vigorous and healthy clump of Phlox decussata, convincingly illustrates that, given suitable exposure, compost and environment and adequate attention as called for, almost every species or variety of plant commonly met with in gardens may, in even the most adverse season, be grown, if not to perfection, at any rate sufficiently well to be a real delight to beholders. This race of Phlox, as is well known, dislikes an excess of direct sunlight, while it is notoriously impatient of drought, yet the photograph, which is a recent one and taken in The Home Counties, shows that even a season such as the present need not prevent its successful culture outdoors. The fine clump of Romneya Coulteri, illustrated on our correspondence page, conveys a lesson other than the obvious one of the partiality of the plant to torrid summers—a partiality which one would expect from the Californian Poppy. The lesson we have in mind is the immense importance of suitable settings for our favourites. There are many plants which contribute largely to the beauty of the herbaceous border which lose little by being but units in a general grouping, there are some which are much more effective when given the moral support of other suitable plants, but there are numbers of herbaceous and sub-shrubby plants, and the Romneya is one of them, which are only seen at their best when planted as isolated specimens or, singly or in small groups, in openings in a large shrubbery. Many shrubs there are also which show to best advantage isolated or when acting, shall we say, as a semi-detached vanguard to a shrubbery planting. "A place for everything: everything in its place" is a [illegible]

THIS GROUP OF PHLOX DECUSSATA LA NEIGE SHOWS THE REWARD OF CARE AND SUITABLE ENVIRONMENT IN AN UNFAVOURABLE SEASON.

THE RENAISSANCE OF THE BORDER PINK

To many the word "Pink" nowadays brings to mind long border edgings of the double white varieties Mrs. Sinkins or Her Majesty. Both are deliciously fragrant, and their neat foliage is always pleasing; but it is to the new races, known as Dianthus Herbertii and the free-flowering Allwoodii, that we must look for the rapid revival of the popularity of this old-fashioned florists' flower.

THE story of the building up of the wonderful new strain of Border Pinks, now getting more generally known as Dianthus Herbertii, is a tale of perseverance crowned with success. Mr. Herbert is one of the fast dying race of Florists (a capital F, Mr. Printer). The present generation, wisely as we all think, admire masses of harmonising and contrasting colour. It requires graceful sprays for cutting and, in the border, a pleasing grouping and skilfully arranged diversity of habit. The twentieth century is singularly out of touch with the nineteenth, but Mr. Herbert, in his younger days, was a well known exhibitor of Carnations at a time when undressed flowers in vases were still undreamt of. He was also responsible in those days for some of the finest Cyclamen, Primula sinensis and Cinerarias ever seen on the show bench.

A singularly modest man, Mr. Herbert has little to say for himself, though he will talk willingly enough about these new Pinks, of which he is justifiably proud. It is more than probable, however, that he still retains his, to us scarcely understandable, admiration for the florists' flower. Thoroughly to comprehend the point of view of the old florists it would be necessary to obtain their general outlook, a thing almost impossible to, at any rate, the younger generation, as difficult, anyhow, as to understand the symbolism which underlies Japanese plant and flower arrangement or the garden design of almost all Oriental countries.

The first of the new race, and still the best known, is Progress, which was obtained, Mr. Herbert insists, by the crossing of two of the old laced florists' Pinks, which in their day had a vogue and were exhibited in the same way as, a little later, Border Carnations came to be. The one parent, Arthur Brown, named after the well known Carnation grower of King's Norton, is still included in a few lists, but the demand for these old favourites is very scant these days. The other parent has probably long since gone the way of all worn-out and out-dated varieties. From seed saved from one pod several fine laced Pinks were produced, one of which showed many distinctive characters in growth and an amazingly robust constitution. This was the epoch-making Progress.

The underlying cause of this remarkable break is still, and will probably remain, undiscovered. Mr. Herbert is confident that no Carnation pollen could possibly have impregnated the flower he fertilised. There remain, then, two explanations of the phenomenon—the one, favoured by Mr. Herbert himself, that the break represents a throwback to some remote ancestor of the garden Pink: the alternative, that one or other of the parents of Progress had, though outwardly a very ordinary, if good, laced Pink, an unknown, or at any rate undisclosed, strain of Carnation in its pedigree. In either case it is remarkable that no similar throw-back has so far been reported, although, as already explained, florists' Pinks were once largely cultivated and new varieties were regularly marketed.

Progress is still a singularly vigorous variety, but the original plant produced sixty layers the first season! Their removal stripped it entirely of "grass." It nevertheless broke vigorously in spring, and that (the second) season it produced thirty-two flowering shoots and quantities of new growth, so that forty-three layers and seventy-two cuttings were taken from the original plant alone. At the International Exhibition at Chelsea in 1912 a group of Progress was staged. Some of the plants, which were 6ft. tall, carried a hundred flowers. These huge plants, which were eight years old, had the hard woody, persistent stems which, like those of the Perpetual Carnation, are characteristic of the plant when grown under glass. Progress has proved to be an excellent and floriferous border plant, and its wiry stems, which outdoors attain a length of 15ins. to 18ins., make it extremely useful for cut flower.

A TYPICAL PLANT OF DIANTHUS HERBERTII AS CULTIVATED UNDER GLASS.

Mr. Herbert does not appear at first to have thought of raising new varieties by fertilising Progress with its own pollen, but a brick-red flake in one of the flowers, which seemed to indicate a tendency to sport, induced him to experiment with self-fertilisation. This proved a difficult undertaking: but a few seeds were eventually obtained, and the resultant seedlings differed considerably from the parent plant. By intercrossing these seedlings, and repeating the process with successive generations, the wide variety which at present exists was produced. These Pinks are all very shy to seed, and it is therefore as fortunate as it is remarkable that almost every seedling proves of value, many as first-rate varieties in every respect, the others as representing a further link in the chain of colour and as the parents of new varieties still to come.

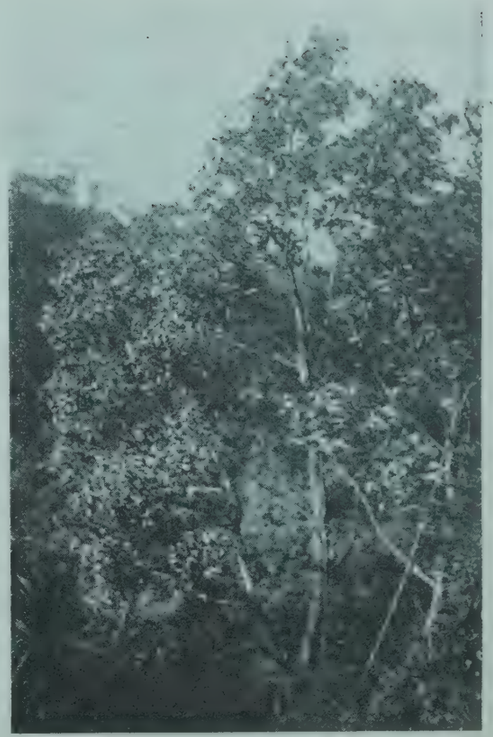
Of the plants so far in commerce the following are some of the most interesting: Queen Mary is rosy pink with deep crimson at the base of the petals. Its flowers are of excellent form, very freely produced. It usually carries five or six flowers on each stiff, wiry stem. It has a calyx sufficiently large to accommodate the petals without bursting, a point in which many otherwise excellent Pinks fail. Mrs. G. Walker has old rose pink flowers of splendid form and very full and fragrant. This is an excellent doer and makes an abundance of "grass." Mr. Herbert considers it one of his best. The deep ruby crimson Victory is a self of splendid form. Its flowers, which are not so heavy as those of the varieties previously mentioned, are like miniature Carnations—a resemblance accentuated by its charming Clove scent. This is an excellent grower. Mr. Herbert's admiration for a florist's flower is well exemplified by his partiality to Model, which has undoubtedly as perfect a flower from a florist's standpoint as was ever seen on Pink or Carnation. *Every* flower of this variety has the exact form of a well dressed Carnation! Its colour is soft rose pink with a deep red base. It is very floriferous and makes plenty of stock, but its growth is hardly so robust as some of the varieties. The foregoing have all received the award of merit of the Royal Horticultural Society. Sweet Nell, salmon rose with a deep red centre, bids fair to be one of the best. It was exhibited in fine condition at this year's Holland House Show. Comedy, rosy mauve with deeper base colour, has many of the characteristics of Progress. The flowers are large and well shaped, and it is an excellent grower. For those who admire the colour, The Imp, with purplish crimson flowers of good form, is an excellent border plant, as it is a strong grower and its stout stems are amply sufficient for the not too weighty flowers. One of the most charming varieties is the self-coloured bright pink May Queen. The pink has a hint of salmon in it, and the flowers are large and well formed and carried on stout stems, but, alas! it is not a good grower.

ie cherry-red Simplicity, which has a dark base the petals, is pleasing, and if as a flower it mpares badly with, say, May Queen, it is an cellent grower and free flowering. Gertrude is agenta with a deep red base, a colouring which es not appeal to everyone. It is a good grower id free. Very beautiful indeed is the crimson-arlet Imperial with good stout petals, the flower ot over full, which allows it to withstand rain itdoors better than the heavier flowered sorts. istinct in colour is Negress, adeep plum coloured lf. It has excellent stiff stems, but is a poor ower and makes but little "grass."

At this year's Chelsea Show a quantity of new edlings were exhibited which, when in commerce, ill broaden the colour range very considerably. mong deep crimsons, bright crimson scarlets nd charming salmons, a white flower with deep ink base was conspicuous, as were some of Indian ed coloration, and also of crimson lake with a eeper base colour. A flower of fine form, pale ink in colour with a dark base, bade fair to be an nprovement on Model.

These Pinks are of the easiest propagation, either from cuttings or layers. Loam, a little leaf-mould and some clean coarse sand is a suitable compost. For layering, the plants are treated as for Carnations. They root very quickly and readily. If established plants have not been propagated, cuttings with a heel, or taken at a joint and split up half an inch, would root even now under a handlight. The layers produce, on an average, the stronger plants.

These Pinks are wonderfully charming. They will undoubtedly in time supersede the older Border Pinks, such as Mrs. Sinkins. They are not perpetual, like the Allwoodii, which are admittedly hybrids between the Perpetual Carnation and the Border Pink, but their flowers are of far finer form and their colourings in general far more pure and beautiful. Is it too much to hope that some day, by the intermarrying of these two excellent strains and careful selection, we may attain a strain of super-Pinks which shall be almost as indispensable in the garden as the Queen of Flowers herself?



EUCALYPTUS GLOBULUS AND E. GUNNII ON THE HILLSIDE.

Rare Shrubs in the Gardens at Craignish Castle, Argyllshire

A Plea for Experiment.

IT may be of interest to your readers to know what sub-tropical shrubs and Indian and Chinese Rhododendrons it is possible to grow in an Argyllshire garden. About eighteen years ago I began a small collection of shrubs and Rhododendrons, and have added to their number year by year. They are nearly all planted on a rather steep, sheltered hillside, and with a south-east aspect and very near to the sea.

DICKSONIA ANTARCTICA AT CRAIGNISH

In many instances the sites for these shrubs have had to be cut out of the rock, and deep bays made for them, filled in with soil. The wind is, of course, the greatest enemy, but I have formed a good belt of Larch, Phormium tenax and Griselinia littoralis; the latter makes an excellent wind screen. We have comparatively little frost, and have not registered more than 11° or 12° for many years, and that probably only for one or two nights at a time. The close proximity of the sea enables many plants to flourish which it would be impossible to grow further inland.

Acacia dealbata has become quite a large tree. Its flowering is the greatest difficulty, as it forms its buds and is just about to open them, when the cold wind, from which we suffer in spring, shrivels them up.

Embothrium coccineum grows most successfully; it has now become a tree quite 15ft. high and makes enormous progress every year. It is an absolute picture when in flower, and also produces seed.

Dicksonia antarctica does exceedingly well. I have had one or two of these for over ten years. We bind their stems with sphagnum moss and cover the crowns with bracken in winter, which is a great protection. They are, as shown in my photograph, very picturesque.

Tricuspidaria lanceolata grown into quite large trees and flowers and seeds profusely.

Desfontainea spinosa is almost a weed. As it makes an admirable barricade against wind, I use it now for sheltering more tender plants. For beauty, when in full flower, it is unsurpassed, and its flowering time extends over a very long period.

Guevina Avellana flourishes reasonably with me, but in a garden about seven miles away, belonging to Mr. Arthur Campbell, it has grown to a height of 12ft. and is a most beautiful plant.

Benthamia fragifera is growing into a large tree, but I have not yet flowered it.

I have two specimens of Plagianthus Lyallii in different positions; one has flowered well for two seasons, but I certainly find that they are rather tender. Their beauty, when in bloom, is undeniable.

There are several small, but flourishing plants of Eucryphia pinnatifolia, but in the well known garden of Colonel Malcolm at Poltalloch, about ten miles away, are two magnificent specimens.

Three beautiful Ericaceous plants, Oxydendron arboreum, Pieris formosa and Zenobia speciosa, are all quite at home and flower well; Pieris formosa making a most beautiful bush in autumn with its brilliantly coloured leaves.

Abutilon vitifolium makes large bushes and is covered with bloom every year.

Clerodendron trichotomum and C. fœtidum both do exceedingly well and flower regularly.

Eucalypti, coccifera, Gunnii, globulus and alpinus, all flourish wonderfully.

Of conifers, Sciadopitys verticillata, Montezumæ, Podocarpus chilina, P. Totara and Fitzroya patagonica grow very satisfactorily.

I have a fairly large collection of Rhododendrons. Nearly all the Indian and Chinese varieties do exceedingly well. Falconeri has been planted about sixteen years and began to flower two years ago. Thomsoni flowers nearly every year, also Roylei, campylocarpum, calophytum, campanulatum and barbatum. I have not yet flowered Aucklandii, Hodgsonii, argenteum or Falconeri eximium, owing to the plants not having sufficiently matured.

All the Chinese Rhododendrons, such as auriculatum, sino-grande and Augustinii, seem to be growing very quickly. Plants of Cordyline australis are absolutely at home, planted on the hill-side in different positions; they give a very tropical and distinct feature, coming out of Tree Ferns and Mimosa.

Musa japonica we grew most successfully for many years, but the plants have not lately made the same progress that they did, though they throw out young suckers each year.

In another garden, against a warm southern wall, is growing Callistemon speciosus, which flowers freely every year; it now covers a space of 5ft. high by 4ft. wide.

Lapageria rosea, growing on a buttress, with an eastern aspect, flowers every season, but does not make the growth that it would in Cornwall.

Medicago arborea grows to a very large size also on a wall, and is [illegible]

are most interesting, like Fuchsias, but with very large bunches of crimson stamens.

Calceolaria violacea grows magnificently and flowers most profusely.

I trust this little outline may encourage many other gardeners on the West Coast of Scotland, or in any similar climate, to experiment as I have done, and with the same success. We are apt to be too conservative in our gardening, and a much larger circle of flowers and shrubs might often be induced to flourish with us if we would be courageous enough to give them a trial. GWENDOLEN GASCOIGNE.

The Treatment of a Valuable Race of Cool-house Orchids: The Odontoglossums

COOL growing Orchids are great favourites, and especially the Colombian Odontoglossums, the first and foremost of which is the chaste O. crispum with its numerous beautiful varieties. Other fine species are O. triumphans, O. Pescatorei, O. luteo-purpureum and O. Hallii. In addition to these will be found a host of exquisite hybrids which, in the majority of instances, possess a more robust constitution. A list of these would serve no useful purpose; a better plan is for the grower to visit the Royal Horticultural Society's Shows, or periodically call at some nursery devoted to Orchid culture. A comparatively new race has been added to the cool Orchids. These are known as Odontiodas. They are the result of intercrossing an Odontoglossum and a Cochlioda, usually the scarlet C. Noezliana, and the brilliant colour of the latter has been inherited by some of the hybrids to a marked degree. The first to appear was O. Vuylstekeæ, followed by such gems as O. Charlesworthii, O. Bradshawiæ, etc. They all require the same treatment as Odontoglossums and may be grown in the same house. Where a moderate collection is grown a few will be in flower the greater part of the year, and for this reason the work of repotting is also spread over a similar period. The bulk, however, will require attention in August or early September, and another batch will be ready in February.

Repotting.—The best time to repot any of the above is a few weeks after flowering or when the new growth is 3ins. or 4ins. in length, because at this stage a fresh lot of roots will appear. A suitable rooting medium consists of Osmunda fibre, peat and sphagnum moss in equal parts, the whole being cut up fairly fine. Ordinary flowerpots are chosen, and are filled one-third of their depth with drainage. Any plant should be repotted that needs additional root space, or if the soil is decomposed and in a sour condition. In dealing with the former the plant is turned carefully out of its pot and all the drainage removed. Very little root disturbance will be necessary, beyond picking out a small portion of the soil at the back of the plant. The current growth should be arranged as near the centre of the receptacle as possible; the soil be made moderately firm and brought up so that the surface will be on a level with the rim. Trim neatly with a pair of scissors or sheep shears. Where the soil is decayed, the roots and general condition of the plant will be unhealthy. Here more drastic measures must be adopted; all the old compost is removed, and the dead roots cut away. Any useless back pseudobulbs must be dispensed with; two or three behind each lead or growing point will be ample. In all probability the plant will take a smaller pot, which should be filled quite half its depth with broken potsherds.

Subsequent Treatment.—When the repotting is finished, the plants may be arranged together in the warmest part of the house. There their requirements can more easily be attended to. Careful watering must be the rule at all times, but especially after root disturbance, as any excess of moisture at the roots will cause them to decay. As growth advances and root action increases, the supply of water may be more liberal until the pseudobulbs are fully matured. At this stage the plants will require less water, but enough must be applied to keep the soil just moist and the pseudobulbs from shrivelling. The surroundings are kept damp by occasionally syringing between the pots, and during hot weather the plants can be sprayed lightly overhead, which will induce clean, healthy growth. Odontoglossums enjoy a certain amount of shade, so it will be necessary to fix blinds on the roof, which can be run down whenever the sun is bright and hot. Ventilation is an important factor in Orchid culture, particularly with cool Orchids, the object being to maintain a sweet, buoyant atmosphere without causing a direct current of air to pass over the plants. Few insect pests trouble the cool growing Orchids, excepting thrips, which are extremely partial to the young growths. If allowed to get established they soon do irreparable damage, so the house should be vaporised at intervals, say, every three weeks, or directly they are seen. W. B.

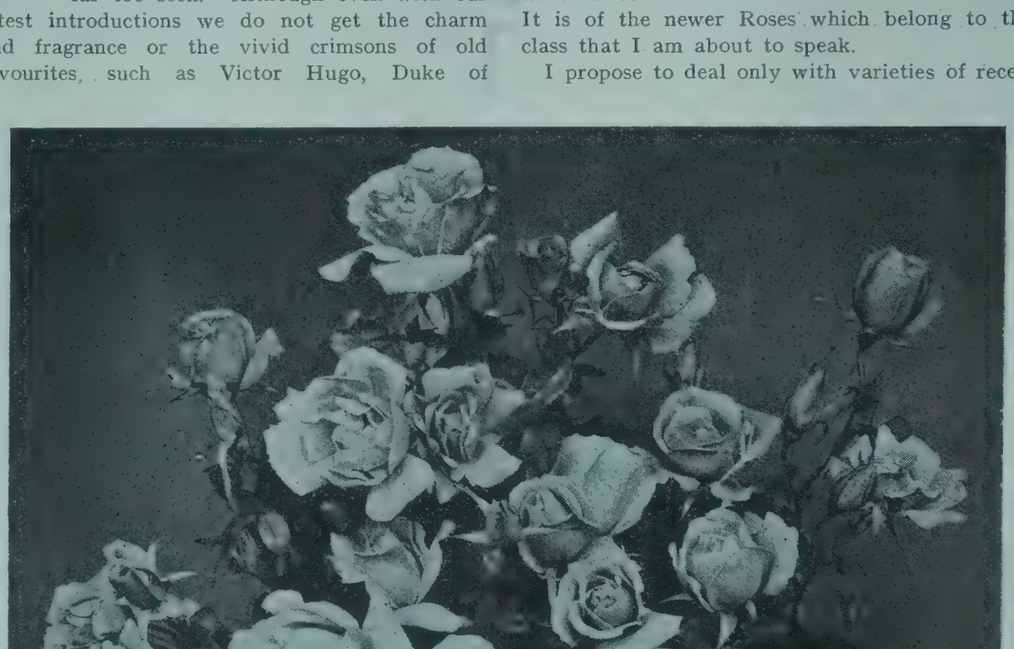
The Best of the Newer Roses for the Garden and for Cut Flower

New Roses, even though they receive awards, are not necessarily improvements on existing kinds. Many of them are, in any case, more suitable for the show bench than the garden, so that these notes on some of the newer varieties from the point of view of vigour, adapability and decorative qualities should be invaluable to many readers.

EVER since the introduction of the Hybrid Tea varieties of Roses, the older Hybrid Perpetuals have gradually receded in popularity, and the reasons are not far too seek. Although even with our latest introductions we do not get the charm and fragrance or the vivid crimsons of old favourites, such as Victor Hugo, Duke of Connaught, Charles Lefèbvre and Horace Vernet, we do get a constant succession of flower in the most gracious tones of pink, salmon, coral red and yellow which delight all rosarians.

Years ago, well within my memory, a Rose, to be popular, had to be full, of perfect imbricate shape and of large size; but with the introduction of the Hybrid Teas and, later, the Pernetiana sections, opinions altered both in the exhibition tents and in our rose gardens. The class which is now known as the decorative Rose gradually superseded the older or Hybrid Perpetual class because of the much extended flowering period, the greater profusion of flowers and the vastly wider selection of colours which was obtained. It is of the newer Roses which belong to this class that I am about to speak.

I propose to deal only with varieties of recent introduction and take them in colours, commencing with the yellow sorts. There are now a number of fine yellow decorative Roses. This fact is undoubtedly due to the distinct break that was made by the introduction of the Pernetiana section. Rayon d'Or was quite a revelation, and since its introduction new yellow varieties have "followed fast and followed faster." Of the more recent introductions, Christine is a most delightful deep golden yellow and has completely



DECORATIVE ROSES ARE CHARMING FOR INDOOR DECORATION.

aken the place of Iona Herdman. It is similar n colour, but better in shape, flowers quite as reely and has the great advantage of being more ardy. The other real yellows which may not e omitted from any garden are Golden Emblem and Mrs. Wemyss Quinn. They are both ideal decorative varieties.

We are now getting a number of fine decorative kinds with flowers ranging in colour from the golden and canary yellows referred to above to the coral reds. Of these I think the best of the lighter shades are Independence Day, which is fine in habit and flowering qualities, and Miss May Marriott, a light coloured sport from Madame E. Herriot. Of the darker ones Emma Wright, Mrs. Farmer and Severine are all good, and any one would give a delightful free-flowering bed. The new yellow of last year, Souvenir de Claudius Pernet, one is hardly yet able to place, but it is a wonderful grower and may possibly replace Golden Emblem. It will in any case be a serious rival. Two others to be highly recommended are Lamia, which is wonderfully free and most pleasing, the colour of the flowers being a deep reddish orange and Mrs. C. V. Haworth, the colouring of which is almost indescribable. The raiser calls it "a cinnamony apricot." The tree carries noble flowers and is most attractive.

The next colour to consider is that of which Lyon was the original break—a coral red shaded with salmon pink. Here are two recent varieties well worthy of mention—one Souvenir de George Beckwith, which is a fine rose, very similar to the old Lyon, but more erect and massive; the other, Los Angeles, a variety which stands out far ahead of all others. A Rose so bright and fresh, so lovely and fascinating, will doubtless remain in our collections long after many of this year's introduction have been forgotten. Of the lighter salmon pinks, that valuable Rose Ophelia has been responsible for quite a number of seedlings from America, but of all that have been tried so far in this country Mme. Butterfly is by far the best. It is a lovely deep coloured form of Ophelia. There is one Rose of the deeper pinks which must not be overlooked—Mrs. Henry Morse. It will not, as some have claimed for it, replace Mme. A. Chatenay—the colour is not bright enough—but it is a glorious Rose, every bud developing into a perfectly shaped bloom of great beauty. Then we have a Rose with a deeper shade of pink and most wonderful fragrance in Henrietta; in its colour, I know no Rose that more fully represents the ideal of a decorative Rose. It is lovely in every stage of flowering. A Rose of similar colour is Padre, which has been very effective this season. Another fine Rose with a yet deeper tinge of pink, and most charming—especially in late summer and autumn—is Jean C. N. Forestier. This will certainly be a favourite.

From pinks we naturally turn to reds and crimsons. There have been many introductions of these colours during the last few years, varying from singles to really full Roses. The brightest and most showy variety this season has undoubtedly been K. of K. This makes a wonderful display. Right through the abnormal drought the beds of it have been a mass of glowing scarlet flowers. Here are two others. Of C. V. Haworth and Colonel O. Fitzgerald, the estimate as to which is the better varies from day to day; either or both would be most acceptable in any rose garden. Two other rather older introductions are worthy of mention—W. C. Gaunt and W. C. Clarke; the latter is a real dark crimson Rose of most delightful fragrance, the former rather lighter in colour, but both should be included in every selection. I cannot finish with the red and crimson Roses without mentioning two very recent introductions which have been real gems this season. One is Miss C. E. Van Rossem, which has flowered consistently, with lovely shaped blossoms of a bright crimson colour, and the other Ebloussant, described by the raiser as a dwarf Perpetual Polyantha. There appears to me to be much China blood in this variety, but it is a marvellous colour and it should have a great future. There have been a number of crimson forms of Orleans sent out the last year or two, but of all the bright red forms of dwarf Rosa Polyantha, I like Verdun the best

I have left one section until the last; that is, the single Roses. Candidly, I do not care for many of the single Roses, but there are one or two varieties we cannot do without. As one of the most beautiful singles Isobel must be grown; nor can we omit Irish Fireflame with its gorgeous colouring. Of the more recent ones I think the Rose introduced last year named Hawlmark Crimson will be the crimson one most sought after. This year there has been introduced the lovely single yellow, Mrs. Oakley Fisher. I very much admired it when I first saw it this spring exhibited by the raisers, and again at the Chelsea Show when some idea could be got of its habit, and certainly it looks like being a very valuable decorative Rose.

There is a wonderful charm about all Roses, but the decorative section, in which I have tried to discuss some of the recent introductions, are to me the most fascinating. There is no plant so easy to grow, nor any other plant which will give such continuity of flowering. I am convinced we are only now commencing to grow Roses. The popularity of the flower is bound still further to increase as the advantages of the decorative section become more widely recognised.

ERNEST A. MERRYWEATHER.

MORE CHARMING STILL IN A SETTING OF CLOSE-MOWN SWARD, EMBOWERED IN VERDURE!

ECONOMICAL GREENHOUSE CONSTRUCTION

Insufficient attention has hitherto been devoted to economical structure in the erection of greenhouses. Owing to the largely enhanced cost of materials and labour, as compared with seven years ago, it is more than ever essential that economies should be effected. Such economies need not interfere with the stability or presentability of the structure.

WHERE greenhouses have fallen to decay and it is desired to replace them, or where new ones are required, careful consideration should first be given to the site. Where old ones have to be replaced, it is unwise, for the sake of retaining a sound brick foundation, to rebuild on the same site if a better one in any way is available, or, for a similar reason, to restrict the new house to the dimensions of the old one. When selecting the site the points chiefly to be borne in mind are aspect, convenience of access and æsthetic considerations. An ordinary span roof house should run as nearly as possible due north and south. The plants then receive some slight shade from the midday sun, especially if the new deep rafters are employed, while getting all possible morning and evening sunlight. The latter is especially valuable, as it enables sunlight to be "bottled," as gardeners usually express it, without closing the ventilators unduly early. The proximity of large trees, or, indeed, shade of any kind, is inimical; but if it is impossible entirely to avoid this, it is probably better to have the evening sun than the morning, though many excellent gardeners would disagree. For summer crops a little shade from the south would in many seasons be beneficial rather than otherwise, but in winter time such shade would mean the excluding of practically all the sunlight available.

So far, we have considered the site only from the point of view of the convenience of the gardener and the benefit of the plants it is proposed

to house, but a garden is or should be a thing of beauty, and æsthetic consideration should have great weight in deciding the site and also, in many cases, in arranging the construction. This question of the site will be the subject of a further article. For the present we will consider the construction of the house from a practical standpoint. To begin with, horticultural builders as a class are to be congratulated on the improvements in construction which have been evolved during the last two or three decades. Compared with those built a generation ago, greenhouses are usually

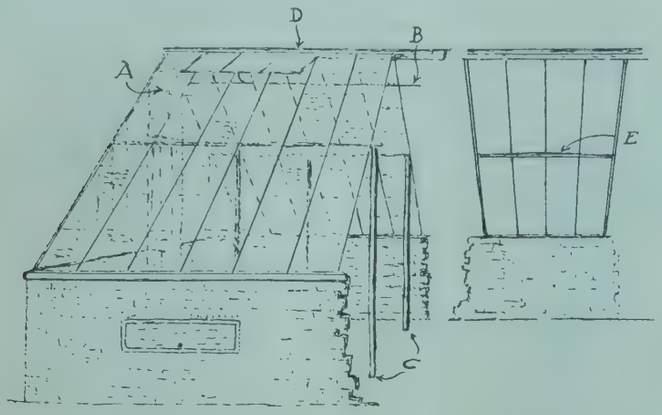


Fig 1A. Fig 1.B.

FIG. 1A.—*Shows ordinary nursery construction.* A, *widening space from bottom to top betrays the fall in ground and side-walls.* B, *continuous ventilator gearing.* C, *purlin posts.* D, *plain ridge-cap.* FIG. 1B.—*A neater but rather more expensive construction, which avoids the use of purlin posts.* E, *purlin which is carried by principal rafters, spaced one principal and three ordinary.*

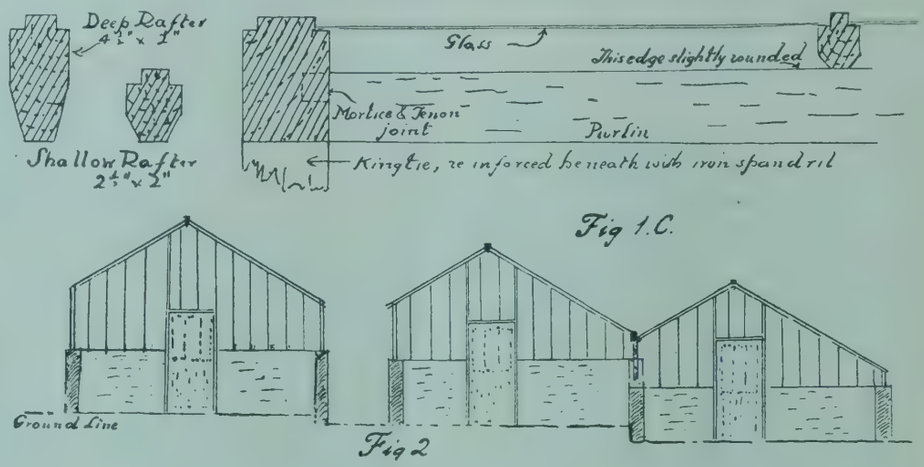


Fig 1.C. Fig 2

FIG. 1C.—*Section of a deep rafter contrasted with that of a shallow one. Detail of the construction shown in* FIG. 1B. *The junctions of the king-ties with the principal rafters and the junction of the rafters themselves at the ridge should be reinforced with iron spandrils. King-ties should be placed every second principal rafter.* FIG. 2 *shows a treatment which will overcome a fall in ground across the width of the houses.*

constructed wider in span and less steep in pitch of roof. They are glazed with much larger panes of glass, carried by relatively narrow but deep rafters. The effect of these last two alterations is to admit much more light to the plants. This will be apparent when it is realised that a rafter cut out of 4in. by 2in. timber admits as much morning or evening light as one cut out of 2½ins. by 2ins. and has more than three times the strength. If painted white, moreover, and kept clean these sash bars really exclude very little light even at noonday. The larger panes, too, mean fewer laps. In a newly constructed house the laps intercept practically no light, but after a few months, or at most a year or two, for practical purposes the joints, owing to the gradual accumulation of dirt (which usually vegetates), may be considered opaque.

In cases where two or more houses must be set side by side, the increase of span and altered pitch allow the houses concerned more light than would have been the case with the older construction. There is, in fact, no real objection to so setting houses "shoulder to shoulder" on the ground of lighting. Especially where different classes of plants are to be cultivated, there are objections to this plan for reasons connected with ventilation, parasites and plant diseases, but that is another story. For moderate sized houses, such as are generally required for private gardens, panes 20ins. by 18ins. are a useful size, though for large carnation houses and for nursery work generally 24ins. by 20ins. are more usual. For the 20in. by 18in. panes the sash bars should be so spaced that inside the rebates for the glass their distance apart is 18⅛ins. full. A strip of the desired length should be carefully squared up and the distance apart checked at top and bottom, and if the roof be a long one supported by a purlin in the middle as well. A small amount of extra time allotted to this question of accurate spacing will save a great deal of time and glass when the glazier gets to work. It is, perhaps, better to mention these details, though if a good firm specialising in this kind of work be employed, their men will for their own sakes take these precautions. It is unwise at any time to employ the local jobbing builder for horticultural work; such a course is certain to prove expensive. He is very unlikely to use the most up-to-date construction, and it will usually be found that, owing to inaccuracy of spacing, replacements of cracked or broken panes are rendered unnecessarily difficult and expensive.

The attached figure (No. 1) illustrates up-to-date methods of construction. Figs. A and B illustrate constructions generally used for nursery work. A shows the more general construction with nailed-on purlins and purlin posts, and B the morticed purlin and principal rafter construction, detailed further in 1 C. They give a maximum of efficiency with a minimum of expense, and in these days of heavy taxation might well be adopted more largely for private work, especially the simple type A which is at once relatively inexpensive and very useful. Also, in these days of dear and scarce labour, why cause time to be wasted pulling up ventilators singly and renewing cords or straining at or black-leading ordinary screw gearing when for little more cost than the former, and much less than the latter, the practical balance gearing could be fitted which makes the alteration of the amount of air a matter of seconds only? In very many cases it would prove well worth while to have this gearing fitted to existing houses.

Much money has been, and is still being, wasted on the levelling of the site for greenhouses, the resultant terrace at one end being in many cases an insufferable nuisance. A fall in the length of the house not exceeding 1 in 20 may well be neglected. The end walls must, of course, be kept perpendicular, but the side walls, instead of being laid to level, should be allowed to follow the average gradient of the ground. The roof rafters, except the end ones, are then arranged at right angles to the slope, not vertically. The effect produced, which is really not at all objectionable, or indeed noticeable, is shown in Fig. 1, A. The balance lever gearing should then be fitted at the bottom end, the fall of the ground thus being utilised to assist in opening the ventilators. A fall across the width of a house or range of houses can easily be accommodated as shown in Fig. 2. By the utilisation of both treatments it is easy to erect a range of glass-houses without a great deal of expensive preparatory work in levelling the ground. Greenhouse doors should always be made amply wide. In the case of fairly large houses it will be found of inestimable advantage to have the doors wide enough to admit a loaded wheelbarrow or hand-barrow without jeopardising the fingers. To do this the door opening should not be less than 3½ft. in width. Where side framing must be utilised—it of course involves much extra expense in construction—the simplest and most economical treatment is shewn in Fig. 3. The expensive side ventilators, still usually fitted and often worked by costly screw gearing, are very unsatisfactory. Good box ventilators, built into the walls and admitting air below stage level and usually between the hot-water pipes, are the best system of bottom ventilation. Many private greenhouses are even now being erected with top ventilation on one side only, usually the east side. This is a stupid construction, and the gardener who succeeds with his crops in such a house is deserving of high commendation for his success under peculiarly and unnecessarily difficult conditions. For very wide (40ft.) houses, such as are seldom met with in private gardens, two rows of roof ventilators on each side are desirable, one hung to the ridge

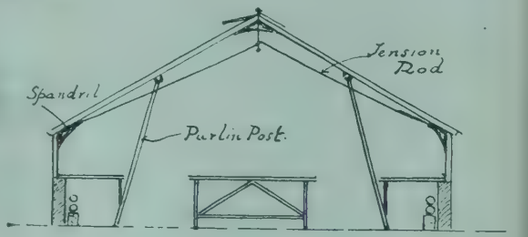


FIG. 3.—AN ECONOMICAL CONSTRUCTION FOR A GREENHOUSE WITH SIDE FRAMING.

and the other immediately below the purlin. In Fig. 1, A, it will be noticed that the sash bars all run straight through to the ridge under the ventilator sash. A light timber bridge, spanning the sash bars, quite plain on its upper side, but grooved for glass on its lower, completing, with the sash bars and the ridge, the ventilator frame. This construction is very much cheaper and stronger than the older and more usual method of forming a morticed and tenoned frame over which to hang the hinged sash. The so-called continuous roof "vents" controlled by screw gearing are not nearly so satisfactory as spaced ventilators with continuous gearing. The spacing

should be arranged according to the purpose for which the "house" is intended. It is wiser in any event to be on the safe side. Rather have one ventilator more than absolutely necessary than one too few.

Heating Apparatus.—The question of heating glasshouses deserves more consideration than is usually allotted to it. In this connexion first cost is necessarily of secondary importance compared with that of upkeep. It is wise to think out carefully what piping will be necessary, and have it properly caulked with tow and cement by skilled workmen. This makes a more permanent and satisfactory job than expansion joints, and if alterations should ever prove desirable, the necessary joints can be unpacked by the use of a painter's blow-lamp to burn out the tow.

The hot-water mains outside the houses should be laid in properly constructed brick or concrete channels, the pipes themselves being wrapped in asbestos or other non-conducting material. Coal and coke are too dear to be used to heat the night air outdoors.

It is wise, generally speaking, to adopt the comparatively new sectional boilers, such as the "Robin Hood," or water tube boilers such as the "Bisson," which are now made for moderate sized greenhouses as well as for the big range of glasshouses used by the trade growers. These boilers are very capable heat generators, and gardeners would do well seriously to consider their advantages when replacing old boilers or erecting new apparatus. Such boilers are extremely easy to control. They develop heat very quickly if desired, or, especially if anthracite be used, they will keep alight for long periods with a minimum of fuel. They will *not*, however, burn rubbish, so that if it is desired to burn cheaply obtainable low grade fuel, one of the better types of saddle boilers should be fitted. It is well to point out, however, that low grade fuel is almost invariably dirty fuel and its smoke very objectionable in a private garden. The acid-laden smoke has, too, a very detrimental effect on the glass, especially on that of the roof, permanently staining and corroding it.

Where a small boiler is required, the Horse Shoe and Loughboro' have high and well deserved reputations.

Unless the installation is a very small one, do not rely on one boiler. Select a boiler of a size to heat the number of feet of piping desired (including mains) and another one half the size, and have them fixed side by side, but connected independently to the mains. Under normal weather conditions the larger boiler will comfortably suffice. In summer, when only a portion of the system needs heating, the smaller one will be called upon, while in severe weather in winter it will be far more economical of fuel and labour to have both boilers going at their natural output, rather than for someone to stay up a large part of the night driving hard one boiler and liberating an immense amount of valuable heat through the "dampers" up the chimney. Hard driving is, moreover, bad for the boiler and bad for the hot-water piping. Have the boiler chimney of ample height, with separate flues for the two boilers. Do not have the flues too big, but keep them free from soot. The self-contained flues in a sectional boiler should be thoroughly cleaned every day. [illegible]

a separate damper to each flue in the chimney itself, so that when a gale is blowing, air may be drawn up the shaft independently of the fires.

Have proper screw-down valves fitted on the flow and return pipes of each boiler, so that if, unhappily, one boiler should crack or develop a leak—such catastrophes almost always occur in winter—both are not put out of action. For a similar reason it is desirable to have the boiler-house in the middle of a range of glasshouses rather than at one end. By fitting screw-down valves on the mains each side the boiler installation, one half of the range of houses can be kept going if a burst should happen on the other. Fit screw-down valves, as far as possible, throughout the system. They enable a damaged section of piping to be isolated, and, in addition, are, if kept in order, 100 per cent. efficient, which is far from being the case with any "check" valve. These latter are, however, comparatively inexpensive and are useful in some places for controlling heat.

THE BELLADONNA LILY

A Plea for its More Extensive Cultivation.

THIS charming plant has long been cutivated in Britain. It was introduced from Portugal as long ago as the beginning of the eighteenth century, but it is still too seldom seen as an outdoor subject, our uncertain climate doubtless contributing largely to this state of affairs. This year, however, one can readily imagine the effect of the long spell of warm weather we have had upon this somewhat tender bulbous plant, and imagine the beauty of its presence in goodly numbers in our warmer autumn borders under the influence of congenial weather, had it been more extensively planted.

The Belladonna Lily (or, to give its correct name, Amaryllis Belladonna) is an autumn-flowering bulb requiring some protection and a warm aspect. This is best given by planting in a border adjoining a vinery, or other hothouse, from which a certain amount of heat may penetrate the border. Anyone possessing the necessary site should plant the bulbs a few inches from the wall, and about 9in. deep, in a compost of half loam, half leaf-soil and plenty of sand. Drainage should be perfect, a deep hole being excavated and partly filled with brick rubble. The bulbs may also be planted in a frame, the lights of which should be put on during the winter and at other times when bad weather threatens, thus efficiently protecting the plants. This beautiful plant will, however, often flourish at the foot of a wall in a south border, especially if well protected from winter rains and frosts. In order to retard early growth of the leaves, it is advisable to protect the border entirely from winter rains until fear of frost is past; then, when the spring showers come, the foliage will grow with increased vigour, owing to the rested and well ripened state of the bulb. Leaves and fibre may also be placed around the leaves during frosty weather.

The Belladonna Lily resents disturbance, although it may be necessary occasionally to lift and replant the bulbs when they have become too crowded. There is no doubt that the border outside the greenhouse is an ideal situation for the bulbs, but even here some means of protection

THE BELLADONNA LILY IN MADEIRA WOODLAND.
The plant has become naturalised there.

to the foliage should be afforded, as the production of good foliage ensures good flowers. The latter, which vary in colour from white to rose, are produced in the late summer months when the plant is bare of foliage, and it is the protection of the foliage during the cold weather that makes this beautiful plant so difficult to establish.

Although coming to us from Portugal, its native locality is probably Brazil, where it was cultivated as a vegetable, or the West Indies. This plant is, however, found extensively in the gardens of Italy and Spain, and growers in the Channel Islands send fine specimens to the English markets. Its lovely presence should therefore be more common, at least in our southern gardens; and those who have favourable site, aspect and soil, and sufficient means of winter protection, should not hesitate to plant and attempt to establish a subject so beautiful. H. A. DAY.

THE BULB ORDER

Bulbs must be planted at the proper time, either in pots or out of doors, if they are to do themselves justice. Examples given. What to plant now

JUST as the famous Sir Thomas Browne of Norwich when writing to John Evelyn on the subject of Garlands divided them into gestatory, portatory, suspensory and depository, and then into goodness knows how many subdivisions; so in a similar way it is possible to deal with the Bulb Order. It might be done alphabetically or according to the order of the letters of the alphabet; monetarily or as the bulbs are valued in dealers' lists; seasonally or according to the period when the bulbs will bloom; purposefully or with an eye to the use to which they will be put; [or peevishly or with a view to seeing the back of it.—ED.] and so on and so on until we come to plantingly (to coin a word) which means dealing with the various bulbs in a rough way in the order in which they should be potted or planted. This treatment has the merit, at any rate, of being both useful, practical and informative. It is not a matter of indifference whether Freesias are placed in pots in August or December, or if Daffodils are consigned to Mother Earth in September or January. Even the long suffering Tulip has a time or season which means (bar accidents) successful flowering; let alone the fastidious, tooth-like Ranunculus, which, judging from its position in dealers' catalogues, ought, one would think, to be frequently seen in gardens, but is not. If one were writing a book on gardening a splendid motto to put on the title page would be the well known quotation from "Julius Cæsar":

> "There is a tide in the affairs of men
> Which taken at the flood, leads on to fortune;
> Omitted, all the voyage of their lives
> Is bound in shallows and in miseries."

Think for one moment how very true this is of seed sowing, of budding and grafting, of taking cuttings and of planting shrubs and trees. Analogy surely suggests that it also applies to planting bulbs. It certainly does, and yet everyone does not realise it. When you come to think of it, why should they? A successful solicitor once asked me to supply him with Daffodil *bulbs* at the end of the month of March! He was perfectly serious. He could draw up a flawless conveyance, but it had never been his job to plant bulbs. He had doubtless often enjoyed a feast of Daffodils, but had never bothered to think how the good fare had been provided. This is, of course, an extreme case.

Now Nature will not be hustled. She plans her processes in orderly sequence. The coming of the "full corn in the ear" is a great marvel, but it is not an instantaneous marvel. In like manner the flowers that delight us in spring, or even in autumn, as, for example, Colchicums, Crocuses and Nerines, require a period of growth and planting at the right time if we are to have them in perfection. We must try to get into the way of remembering, and if the hint is too late for the present year we should store it away ready to bring out next year. The following rough time-table, which includes most of the best known families usually to be found in bulb catalogues, may serve as a gentle reminder: July—Colchicums, Autumn Crocuses, Lachenalias and Freesias. August—Roman Hyacinths, prepared Hyacinths, Freesias, Lachenalias, Nerines, Daffodils for January blooming, such as Golden Spur and Duc van Thol, and other very early-flowering Tulips. September—the same as in August in pots, with the addition of Darwin Tulips; and, out of doors, Daffodils, Snowdrops, Crocuses, Grape Hyacinths, Scilla sibirica, Chionodoxas, Winter Aconites, Dutch Hyacinths, Erythroniums and Fritillaries. October—bulbs in pots and fibre which have to be grown altogether in a dwelling-house should be planted about the second or third week; in this month all bulbs which are to be grown in pots should be planted if they have not already been put in, including Dutch Irises, Ixias, Babianas, Brodiæas and a selection of Oxalises. Out of doors, Spanish, Dutch and English Irises; Wood Hyacinths; all kinds of Daffodils; Dutch Hyacinths; all the smaller bulbs, like the Muscari (Grape Hyacinths), Erythroniums and Chionodoxas; and, towards the end, Tulips. November—Hyacinths (they are such good, tractable bulbs) may still be planted in pots; so, too, Tulips and Ixias, Sparaxis, Babianas and Brodiæas. Out of doors the first twelve days of the month are the ideal Tulip planting time. It is, however, getting very late for all other bulbs, and the *best* results must no longer be expected. After this month has gone, no planting should be done if it is possible to avoid it. Early November, I should say, incidentally, is as good a time as any in which to plant Daffodils and other bulbs in grass; the reason being that by then the ground will be in a soft and moist condition and roots will at once start to be made. In February or very early March, according to the season, we may plant Persian, French and Turban Ranunculi, Ixias, Anemones (unless in warm localities and light soil), early-flowering Gladioli (the August-flowering varieties in April), and Tigridias at the end of the month or in April.

This time-table does not profess to be anything more than suggestive and, as it were, a silent reminder of the times when different bulbs should be planted. It is almost entirely based on the climate of and the routine practice at Whitewell, when we are able to plant "according to Cocker"; but, as everyone who has had any garden experience knows, the unexpected often happens and our best intentions get upset, so that we have to be content with what is possible, in the place of the ideal which, Will-o'-the-wisp-like, so frequently escapes us. As soon as possible after these notes appear, Freesias, especially some of the new coloured varieties; Lachenalias; Golden Spur or Henry Irving Daffodils; Roman Hyacinths; the new prepared Dutch Hyacinths; and Duc van Thol Tulips should be planted, in order to give them as good a chance as possible of forming roots before they are placed in the heat necessary to encourage an early—and a very much out of season—flowering. JOSEPH JACOB.

The Restoration of Lawns

The season has now arrived when decrepit lawns should receive attention. There are, alas! many of these; some mementoes of the Great War—mementoes which could well be dispensed with—some the result of the abnormal drought.

OWING to scarcity of labour during the war the majority of lawns were much neglected. The coarser grasses obtained the mastery and innumerable weeds sprang up, and the finer grasses eventually succumbed. In many gardens the grass was left until ripe and mown for hay. The seeds of weeds and coarser grasses were scattered right and left and germinated freely. Just as many lawns were being restored to a less deplorable condition, the unusually long spell of drought of the present summer set in and did further damage. The restrictions on company's water in many districts made matters worse.

The season for renovating lawns or, where necessary, for forming new ones, is now upon us. Much may be done to eradicate weeds by hand pulling, but this is, at best, a back-aching and tedious task. Applications of common salt to the crowns of weeds will often kill them; but where the root-stock is strong, the upper portion of the plant only will be affected. Sulphuric acid is often applied by means of a special injector to the hearts of weeds, but this acid needs careful handling and is not invariably successful. If applied without discrimination it renders a small area round each weed sterile! Applications of sulphate of ammonia are often recommended, but there are several reliable brands of lawn sand now on the market which are infinitely better for the purpose. When using lawn sand care should be taken to follow the directions given by the manufacturers, as an overdose is likely to cause considerable damage, and an underdose is hardly likely to prove effective.

Where bare white patches show that the grass is killed, the ground should be lightly pricked over and levelled and left for a few days to allow it to settle. Seed should then be sown. It will soon germinate in the still warm ground and will become established before winter sets in.

Lawns may be made or remade in two ways, viz., by laying turves or by sowing seed. Many prefer the former method, but good turf is costly, and transport is a big item. If seed be obtained from a reliable source a good lawn should be obtained in two seasons at most. Lawns from seed should not be used for games the first season. When ordering grass seed it is advisable to obtain it from a firm of repute, and to acquaint them with the area to be sown, the nature of the soil and the purpose for which the lawn is intended.

Before renovating or making new lawns the first point to consider is the efficiency of the drainage. Satisfied that this is in order, the ground should be properly levelled or graded, leaving it, as already advised, to settle for a few days before sowing. Poor soils should, of course, receive a good manuring previously either to sowing seed or laying turf.

When the lawn has become established it should receive constant attention as regards weeding, watering, rolling and mowing. In the case of

awns raised from seed the first and second mowing should be done with a scythe.

Old lawns which receive constant attention sometimes turn brown and begin to die. The cause of this will generally be found in the soil. After many years the soil becomes worn out. In such a case the turves should be lifted and the ground dug over, at the same time incorporating well rotted stable manure. After carefully levelling, replace the turves and beat well down.

When sowing seed mix it with sand so as to ensure even distribution, afterwards sprinkling a fine layer of soil over the ground, as this will prevent wind blowing away the seed and will also safeguard to some extent against birds.

Mossy Lawns.—Moss, unfortunately, is very prevalent this year, and especially is this noticeable on playing lawns. The best remedy is the application of lawn sand, which will kill the moss and encourage the finer grasses. Another method is thoroughly to scarify the lawn with a rake, going over it both lengthways and crossways. After the work is finished the lawn will present a rather "torn up" appearance, but the damage done to the roots will be practically nil. After raking off the moss, give a light dressing of lawn sand. Lawns, if so desired, may be made or repaired in spring, but they stand a far better chance of becoming established if taken in hand at this season. H. G.

CORRESPONDENCE

THE TREE POPPY, ROMNEYA COULTERI.

THOUGH I had long known the wonderful Romneya Coulteri, or Californian Tree Poppy, as one of the grandest of border plants, yet it was not until recently that I realised what a gigantic specimen a long established plant could become. Imagine it, if you please, a single plant placed at the centre of a large round bed that was situate in a wide valley in the garden; then carry your eye to a height of 6ft. upwards and 9ft. across and you have an idea of the gargantuan proportions of this wonder plant. But that is only half the story. Having visualised proportions, we must now proceed to clothe the plant. All over the length of the stems are handsome glaucous green leaves and, at the tips of the growths, huge white satiny petalled flowers, elegantly crimped and with a great central ring of golden stamens to the number of hundreds. These flowers continue to expand all through July, August and September. Culturally, the Romneya detests interference with the roots, and, in the main, success may be said to lie in leaving it alone. If possible, purchase a plant in a pot; this is worth four times one that has been dug from the ground. The choice of position is important. Remember, they come from California and therefore cannot have too much sunshine. At the same time they need shelter, so that the bed must be where they will be protected from north and east winds. Prepare the soil thoroughly by digging to a depth of 3ft. at least. It pays to remove the natural soil—unless this is really good—and replace by a barrowload or two of fibrous loam, to which a bushel of bone meal has been added. Plant firmly and before the really hard weather comes cover with a good protective layer of straw, etc. Hard frost may cut the top growth to the ground, but the plant will break again from the ground level. Do not disturb the roots on any account, but each spring top dress thoroughly with some old decayed manure.—CROYDONIA.

IN PRAISE OF THE WOOD SORREL.

IF our native Wood Sorrel was a rare exotic that had just been introduced and was being sold at five shillings a root, what a fuss we should make about it; and how one of the first to obtain the treasure would grow on a potful and send it to a Royal Horticultural Society's show with a lively expectation of an award of merit! As it is, one cannot pass some shady place in woodland where this lovely little plant has its home without a thrill of delight and truest admiration. With this, as in the case of other native plants of exceptional beauty, one is tempted to bring it into the garden, but a word of caution may save others who are like-minded from the danger of getting too much of a good thing. For though its size and character would suggest its suitable use in rock gardening, it soon becomes a troublesome weed, and has a way of penetrating into the roots and crowns of other small plants that makes it impossible to get it out without lifting the invaded plant and washing it clear. Its place is not in the garden proper but in outlying regions, by woodland walks or shrubbery edges, always in shade.—G. J.

A MAGNIFICENT TREE POPPY IN A BEAUTIFUL SETTING.

REFLECTIONS.

IMPORTANT as a normal view of things may be as a rule, there are occasions when an abnormal one is pleasant, a case in point being the appearance of a waterside garden as seen in the water. In some places a gazing globe is a recognised feature of garden furniture, but how often do we hear of the possibilities of such a natural mirror as a lily pond provides? Though the reflection in the water is faithful in line, it is not always so in tone; so that the impression produced by it is not necessarily the same as that produced by the original, while the difference is still further increased by the unusual view-point obtained. With suitable lighting conditions, turbid water will make a scene in bright light appear as though under a sombre sky. The conversion of height into depth always gives a striking effect. A lofty Cypress rising from the ground may be handsome, but when seen hanging from a crystal roof into infinite space is impressive. A garden vista, seen in conjunction with a clear reflection, has a new element introduced into its composition—namely, symmetry. It would, perhaps, be too much to suggest planting with a view to combined effect, but when a good example of the latter does occur it is well worth notice.—A. E. SIMS.

THE EVENING GARDEN.

[We have received the following contribution to the correspondence on this subject from an Indian reader, whose dream-garden is clearly defined and vividly described.—ED.]

THE tired man, Mr. Editor, dreamed a dream. He wandered in fancy away from the "garden proper" and followed an old flagged path that led through a neglected and overgrown shrubbery in which were many ornamental bushes and trees, all untrimmed and left to Nature. They had grown as God had meant them to grow. As our weary friend strolls along, he senses a pungent fragrance. Looking down, he finds himself walking on a bed of Thyme, growing over and between the worn and crumbling flags. The path now leads gently down into a hollow, and there, in a great curve, stands a strong, well built wooden hut. A veritable "Norsk hut!" with thick, carved wooden pillars. The entrance porch is entirely covered with Honeysuckle. In what had been once a border, but is now a neglected mound of greenery, grow, in great clumps, vigorous plants of yellow and brown Wallflowers. From somewhere at the back or sides of the hut come to him the delicious scent of Heliotrope and Mignonette in combination, while up the sides of the sloping bank grow quite a wilderness of the pale yellow Evening Primrose. How eagerly our friend watches the half folded buds burst open before his tired eyes! As they do so, there appear many beautiful night-flying moths to gather the waiting nectar, among them the Giant Sphinx with long, curved antennæ and probing each flower in its swallow-like flight. It was of this fair Primrose that the poet Keats wrote "A thing of beauty is a joy for ever." In the further distance

the Pine woods make a rich dark background for a sturdy row of pink, white and wine-coloured Hollyhocks standing like sentinels on guard. The setting sun brings out the crimson tints of these gorgeous flowers. Yonder the flagged path merges into a wider space, still covered with the fragrant carpet. On the left-hand bank grows quite a hedge of Sweet Briar. The time being June, it is glorious with pink blossoms. Beyond this hedge is a narrow path leading through a rough pergola covered with the dark green branches and twisted stems of the white Jasmine, scattering thousands of white stars in fragrant showers over the path and over all who pass beneath. Sit down, Tired Man, on this moss-covered bench and rest! Here plan how *not* to improve this God-given gift, but study how to keep it for a real "Evening Garden"! —CONIFER.

SPRAYING DIFFICULTIES.

I AGREE with Mr. Macself that nicotine is about the best remedy for insect pests. It is a pity that it costs so much. Perhaps some of your readers can inform us whether, if we grew Tobacco plants and dried them and then boiled or steeped them in water, we should find it a cheap and good source of nicotine. I presume that for so good a purpose the Government would remove all restrictions. It is certainly wrong to tax any aid to food production. I have been reckoning up the price of spray fluids, and find that at present we can hardly have any under 2d. per gallon when diluted ready for use, and at this price not many people care to use them; it is quite too much. Spraying machines also cost a fancy price. We must hope that soon prices will drop to levels within the reach of all. There is certainly much unjustifiable increase in some things. For instance, only this week I ordered a little cloth camera bellows about 3½ins. by 2½ins., pull 8ins., for which 8s. 6d. was charged by the makers, at which price one could have bought a small camera with bellows before the war. To return to spraying, I think that if we limewash our trees all over as late as possible in March every year we shall not suffer much from caterpillar or aphis later, as this wash smothers all eggs and insects, and apart from, perhaps, the application of a fungicide when the fruit has set, we shall find but few pests to fight for the rest of the year. As regards spraying machines, I do not approve of knapsack machines. They are too small for anything but a tiny garden, hard to carry and too soon emptied. For even a small garden a sprayer of the bucket type is to be preferred. I have got the best results from limewash, particularly in entirely preventing the attack of the winter moth caterpillar. It prevents moss and does good to the soil when it falls off. I have tried dry spraying, but the powder does not stick unless the trees are damp, and one inhales, even with all precautions, far more than is pleasant, Quite 75 per cent. or more of the powder is wasted in space. Most certainly wet spraying is far the best in every respect, and one has more choice of materials. For Potatoes dry spraying is of service, but still the dust is a great drawback.—W. J. FARMER.

PYRUS JAPONICA FRUITING FREELY.

METHINKS the 1921 fruit crop, taken in conjunction with the character of the summer of last year, has rather upset some of our theories. It was generally believed that one of the essential conditions for a good crop of fruit was at least an average amount of sunshine the previous year in order to ensure the proper ripening of the wood. Now, notwithstanding the wet, sunless season of 1920, trees and shrubs of all kinds flowered profusely this season and all kinds of hardy fruits have been unusually plentiful. Among other things, a bush of Pyrus japonica in the shrubbery here is bearing a crop that no one who has seen it has seen equalled even on a wall.—CHARLES COMFORT, *Midlothian.*

THE RARE NICE SNOWFLAKE.

I SEE several recent allusions in your columns to the smaller Snowflakes and am tempted to send you a photograph (life size) of the rare spring-flowering mem ber of the genus, Leucojum nicænse, from the south-east corner of France. Moggridge (1874) and Bicknell (1885), writing on the Flora of the French Riviera, agree in limiting its habitat to the narrow strip of coastline running from Mont Alban, near Nice, to the Italian frontier just east of Mentone, some fifteen miles. But since these charming books were written it has apparently been discovered that the range of the Nice Snowflake is not quite so confined, for the Abbé H. Coste, in his "Flore de France"

THE RARE SNOWFLAKE LEUCOJUM NICÆNSE FLOWERING IN CULTIVATION.

(1906), considerably extends the district wherein the plant has been found, both in an easterly and westerly direction, which is satisfactory as tending to prolong its existence. My plant was found at Eza in April, 1919, and having been collected in flower, contented itself last year with making an additional bulb. However, this spring, early in April, it pushed up a flower spike bearing two blooms. I regret that, owing to an accident, I was obliged to take the photograph with a borrowed camera and without a screen. The golden anthers therefore do not appear in their proper colour, and the portrait suffers considerably thereby. I have just repotted the plant and find that each old bulb has made an offset: so the plant cannot be said to be a difficult subject if treated like other sun-loving bulbs, such as Romulea, Tecophilæa, etc., in a sunny greenhouse. My plant stands near a ventilator on the front stage of a carnation house.—W. H. ST. QUINTIN.

WICHURAIANA ROSES IN NORTHERN IRELAND.

RAMBLER ROSES have been very fine this year in the North of Ireland, and anyone travelling from Belfast to Newcastle, County Down, must have admired their brilliance and profusion in the gardens at Knock and other places on the line. Troubadour and American Pillar have been specially beautiful, and with many others are at their best here now (August 10). As these Roses grow readily from cuttings there is no reason why many derelict spots should not be covered with them. It would be desirable to grow more of the cream and yellow coloured new varieties for contrast, as the only fault that might be suggested is that the great masses of red and pink and scarlet are not sufficiently relieved by some other colours. A list of the best and hardiest varieties of yellow, cream, white and gold would be useful for purchase this autumn.—WALTER SMYTH, *County Down.*

A BEAUTIFUL BROOM.

THE name Cytisus elongatus has been used instead of C. longispicatus for the variety of C. nigricans, also known as var. Carlieri, in which the ong flower-spikes make a fresh growth at their tips after the lower flowers have fallen off. Generally a few leaves come first, then another spike of flowers above them, but all as a continuation of the axis of the first flower-spike. It is very likely that this peculiarity might not be inherent in all seedlings from this variety, and there can be little doubt but that "W. L's" plant (page 409) is a form of C. nigricans. The name was given to it by Linnæus because the flowers turn black when dried, a character that, however, many other Brooms share with it.—E. A. B.

THE MONT CENIS HAIRBELL.

READING the article, "Alpine Plants at Home," in THE GARDEN of August 13 and the note on Campanula cenisia I am writing to say that I have a flourishing plant of this Campanula on my rockery now flowering for the second time this summer. The plant was very tiny when received from Newry a year ago, and was kept in a cool greenhouse all the autumn and winter of last year, repotted in spring and planted out later when the pot was full of rootlets. A circle of perforated zinc was used as a protection from slugs and the surface covered with stones from the gravel path, and during the dry weather the plant was well watered twice a day. The rockery is dry with a very sunny slope to the south.—M. M.

SCARLET RUNNERS AND FRENCH BEANS AT EXHIBITIONS.

A QUESTION of general interest to vegetable growers and of special interest to schedule framers, exhibitors and judges of vegetables came before the Fruit and Vegetable Committee of the Royal Horticultural Society at their meeting on August 9. The question asked was: "Whether it was permissible for an exhibitor to include in a collection of vegetables a dish of Dwarf French Beans as well as a dish of Scarlet Runner Beans as two distinct kinds?" The committee decided that they should be so classed and admitted as two distinct kinds, basing their decision on the fact that botanically each is a distinct species. This question has been a subject of doubt and dispute at exhibitions for a long time and is well settled and out of the way. The decision suggests the thought that this would be a good way of settling other questions of a similar natu re which occasionally arise as to the interpreta tion of schedules and disputes over points of judging.—PRACTICAL.

CHOICE DAFFODILS OF PROVED MERIT

THE FOLLOWING DAFFODILS HAVE ALL BEEN GROWN BY US FOR LONG ENOUGH TO THOROUGHLY TEST THEIR ALL-ROUND MERITS. NONE OF THEM BELONG TO THAT CLASS WHICH GET AN A.M. ONE YEAR AND DIE OUT A SEASON OR TWO LATER!

1*a*. **BEN ALDER** (*Brodie of Brodie*). A very fine yellow trumpet Daffodil of large size and great vigour. Not quite a first-class show flower, but a grand garden plant. A very strong grower. Late. **10/-** per bulb.

2*b* **BERNARDINO** (*Worsley*. A seedling from *Lulworth*, but much larger and having a taller habit of growth, Perianth creamy white, cup large and prettily crinkled at the edge, deeply tinted orange apricot. Highly recommended. **3/-** each.

BRILLIANCY (*Engleheart*). Best described as a glorified *Barrii Conspicuus*. A very tall plant and very early, also a rapid increaser. **3/-** each; **32/-** per doz.

2*a*. **CRŒSUS** (*J. C. Williams*, 1910). A really remarkable flower. Segments very broad and overlapping, primrose yellow. Cup large and spreading, rich orange red throughout. Whole flower 3¼ins. across, and cup 1¼ins. A plant of fine constitution and good sturdy habit of growth. F.C.C., R.H.S., 1902. **15/-** per bulb.

4*a*. **EMPIRE** (*Crosfield*, 1911). The finest *Giant Leedsii* yet sent out. A large and perfectly formed flower, with a fine pose. Segments pure white, cup pale lemon passing to white. A quick increaser and good seeder. **10/6** per bulb.

3*b*. **FIRETAIL** (*Crosfield*, 1910). A large, firm flower (3½ins. in diameter), of best lasting quality. Segments creamy white, broad and overlapping. Disc large, quite flat, of deep red throughout. A.M., Birmingham, 1910, and was considered to be one of the best flowers in the show. Very late. **25/-** per bulb.

1*c*. **FLORENCE PEARSON** (*Pearson*, 1905). A magnificent new trumpet Daffodil, the result of a cross between *Emperor* and *Mme. de Graaff*. Segments creamy white, long, and of very firm texture, trumpet long, rather gashed at brim, of a beautiful creamy tint. When opened in water the flower is as white as *Mme. de Graaff*. Foliage as broad and luxuriant as *Emperor*. Plant extremely vigorous and free. **1/6** each; **15/-** per doz.

3*b*. **GIPSY QUEEN** (*Engleheart*, 1906). A large *Barrii*. Segments creamy white, broad, and well formed; cup large and spreading, yellow with broad edging of orange. A good plant and very free, the flowers being carried on long stems. A good exhibition variety, and one which will make a fine decorative flower when cheaper. **7/6** per doz; **8d.** each.

KING ALFRED (*Kendall*). The finest of all yellow Daffodils where it finds soil to suit it. **8/-** per doz.; **9d.** each.

4*a*. **LOUISE L. LINTON** (*Pearson*, 1910). A giant *Leedsii* of fine form and great lasting quality. Segments pure white, well rounded and overlapping. Cup long, deep yellow, prettily crinkled at the brim. Plant very vigorous and free. Mid season. **1/-** each; **10/6** per doz.

2*b*. **MARSHLIGHT.** A flower after the style of *Lucifer*, but very much finer. Segments creamy white, cup deep red all through. Plant vigorous, producing plenty of deep green foliage. Mid season. **£2** per bulb.

2*a*. **NOBLE.** A fine giant *Incomp.*, of strong growth. Flower well formed and firm, uniform pale, clear yellow. Mid season. **10/6** per doz.; **1/-** each.

4*a*. **NORAH PEARSON** (*Pearson*, 1910). A very fine *Giant Leedsii*, very much in the way of *Hon. Mrs. Francklin*, but later in flowering. A very firm, well set up flower of great lasting quality. Plant extremely strong and vigorous. A.M., Mid. Daff. Soc., April 22nd, 1913. **7/6** per doz.; **8d.** each.

POETICUS JOHN MASEFIELD (*Engleheart*). A remarkably showy flower, and distinct from most Poets in commerce. The flower is well formed and very round. Perianth pure white; the large disc-like eye is bordered by a band of deep bright red. A really first-class Poeticus. A.M., R.H.S., 1920. **3/6** per bulb.

3*b*. **RED BEACON.** A very good red-eyed variety, about the best at the price. Pure white perianth, and brilliant red eye. Rather late. **15/-** per doz.; **1/6** each.

4*a*. **SANCTITY** (*Guy L. Wilson*, 1921). A distinct and very beautiful *Giant Leedsii*. The whole flower, which is rather pendulous, is pure white. Cup very long and rather narrow. A very refined and delicate-looking flower. The plant produces plenty of dark green foliage, and is very healthy and vigorous. **10/-** per bulb.

4*a*. **THORDIS** (*Pearson*, 1921). This is the result of a secondary cross, a Giant Leedsii crossed with a trumpet Daffodil. The result is a very round, well formed flower with white segments and deep yellow cup of a distinct shade. The plant is extremely vigorous, very early, and free flowering. Having a good stock, we are able to offer it at the low figure of **5/-** per bulb.

J. R. PEARSON & SONS, Ltd., "The Nurseries,"

LOWDHAM, NOTTS. Established 1782.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Narcissi for naturalising in grass and for border work should be got in as soon as convenient, and thus enable the bulbs to make plenty of roots in the early autumn. When grown in borders it is hardly possible to avoid something approaching formality, but for grass and by the sides of woodland drives, the less pretension to arrive at any definite scheme or method the better. Just huge scattered drifts here and there with a few stragglers dropped by the way, as it were, will give a much more pleasing effect than any amount of scheming and planning. Only good bulbs should be planted and all weak and undersized ones should be put out to develop on available land under fruit trees, etc. The depth to plant must be according to the nature of the soil. On stiff land 3ins. to 4ins. is sufficiently deep, while on light soils 6ins. is better. Avoid any set distance from bulb to bulb; in places put quite a number fairly close together, and then skip a few feet, merely dropping a casual bulb or two to loosely connect the picture when flowering time comes along.

Propagation of Geraniums, Heliotropes, Marguerites, Lantanas, etc. will now call for attention, and will, I am afraid, in some instances, present a task somewhat difficult of fulfilment, for the number of growths suitable for cuttings is considerably fewer than the average for this time of year. Where Geraniums are still used the supply of cuttings, although small, is good in quality, and a successful strike should easily be managed. Where there is an insufficiency of any particular stock a portion of the old plants must be potted or boxed up a little later in the season. The medium for cuttings generally should be of a light and porous nature, and the pots, pans or boxes must all be well drained. Geraniums will strike well outside so long as heavy rains are warded off. The other plants mentioned may be given a close cold frame until rooted and shaded from bright sunshine, while such plants as Coleus and Irisine are more satisfactory if given a slightly heated pit.

Rock Plants.—Any strong-growing plants which require cutting over a little to admit light and air should be seen to now. This will also help to prevent an accumulation of stray leaves collecting round them, harbouring unnecessary moisture and, moreover, cutting over makes such a place less accommodating for slugs.

Rose of Sharon.—Hypericum calycinum is of great value for growing under the shade of trees, and there are but few to equal this sub-shrubby plant for withstanding dryness. With its glossy foliage and large yellow flowers it forms quite a feature where it may otherwise be a difficult task to get anything established. Roots may be lifted and divided now or in spring and increase of stock also made by root cuttings.

The Kitchen Garden.

Turnips.—Encourage the last sown to make headway by a frequent use of the Dutch hoe, and if fly be troublesome dust during the early morning with soot or wood-ash.

Winter Greens of the Kale and Savoy family may still be planted, if necessary, and room can be found for them. Should weather still be unfavourable, puddle the roots before planting and then afterwards keep the hoe going fairly frequently.

Outdoor Tomatoes.—This is one of the crops which has revelled in the sunshine, where an occasional watering has been given and a mulch applied. The crop must be hastened along to maturity now, as quickly as possible, by rigidly suppressing all unnecessary growths, and where foliage is very thick by judiciously thinning the same to admit more light and air.

Hardy Fruit Garden.

General Work.—Peaches and Nectarines should be gathered before getting too ripe and removed to the storeroom for a couple of days. Plums, too, require almost daily attention in this direction. It is better not to allow the fruits to be too ripe before gathering if required for bottling, but, on the other hand, when used for jam they are appreciated fully ripe. Early Apples, like early Pears, are practically useless if kept long and where such as Irish Peach, Beauty of Bath and Gladstone are grown and the trees can be netted it is better to use almost direct from the trees—at any rate, a couple of days in the fruit-room is enough.

Plants Under Glass.

Lachenalia Nelsonii is a useful bulbous plant for spring blooming. The bulbs will do quite well for two years in the same pots if a little feeding is resorted to when the flower-spikes are developing. Start in a cold frame and when frosty nights come remove to a shelf near the glass in a cool house.

Malmaison Carnations layered in July will be ready for potting. Use an open compost of good loam, leaf-soil and a little old mortar rubble, wood-ash and sand. Pot moderately firm into 3in. and 4in. pots and keep the pit or frame fairly close and shaded from hot sunshine until recovery from potting is assured, and then gradually admit plenty of air and always avoid excessive moisture.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

General Work.—A good deal of tidying up will now be necessary in the kitchen garden. Clear off all spent crops as time permits, burning Pea straw, Bean stalks and Potato haulm where possible, as none of these is useful as manure in the rot pit, but when reduced to ash are of value.

Leeks.—Main lots of these which are growing rapidly should receive an occasional soaking of liquid manure, as they are gross feeders. There is less likelihood of "bolting" among these later lots. Still encourage growth by regular hoeing between the lines.

Potatoes are still lifting well, the second early and main crop varieties proving much heavier in crop than the earliest lots, while the late varieties are most promising. The quality this season is exceptionally fine, Arran Comrade in particular turning out to be really good, as recommended by the various growers. It seems particularly happy on our heavy soil, the tubers being of fine size and quality, and one might readily term it a glorified Sutton's Abundance. Crofter is also a variety which gives entire satisfaction; for size it has the most evenly usable tubers of the lot. Laing's Perfection, a late sort which we are growing for the first time this season, is proving a prolific variety also and, having had advantage of the rains, should finish well, when we shall be better able to report on the quality.

The Hardy Fruit Garden.

Strawberries should now be cleared of all runners, and so allow of a more thorough development of the parent plants. Unfortunately, pressure of work in many large gardens necessitates this work being left till a later date, but wherever possible the work should be carried through now. Where it is proposed to plant new beds in the spring, the layers will have been lifted and heeled into a sheltered border, firming the plants thoroughly in the rows.

Raspberries.—Most of these are past fruiting now, so should be cleared of all the old wood and so allow for the better maturing of the young canes that are left for next season's fruiting. Also thin out the weakest canes of the current season's growth, leaving a good selection of young canes for tying to the trellis or stakes.

Loganberries may be attended to also by cutting away all canes that have fruited this season, tying in at the same time the necessary shoots for next year's crop.

The Flower Garden.

The Hardy Flower Border.—Cut away all withered stems, and give a final tie to late-flowering Asters, Heleniums, etc. Mark any subjects that may require to be moved during the winter or spring months. Move into frames small pieces of any particular plant that may be inclined to die out, and thus make sure of stock. Excessive damp is sometimes more fatal to many so-called hardy plants than frost is.

Hydrangea arborea grandiflora.—This most attractive and free-flowering North American species has for a number of years given us greater pleasure than paniculata. It is really one of the best of the outdoor Hydrangeas. The heads are snow white in colour, reminding one of the Guelder Rose, but very much larger. It grows into a small tree, but can be kept to a useful size for beds by judicious pruning. It may be propagated now from well ripened shoots, which if dibbled into a close case root readily.

Hedges of various kinds may now receive their final trimming. Privet, Thorn, Yew and various other evergreens will be found easier to do now before the wood hardens. It will also be found that, so far as these are concerned, growth has finished for the season.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

FORTHCOMING EVENTS.

August 30.—Durham, Northumberland and Newcastle-on-Tyne Botanical and Horticultural Society's Annual Exhibition (three days).

August 31.—Irish Gardeners' Association Meeting.

September 1.—Marks Tey and District Amateur Dahlia Society's Show.

September 6.—Royal Horticultural Society's Fortnightly Meeting, in conjunction with which will be held the National Dahlia Society's Annual Show.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

WATER GARDEN.

AQUATICS ATTACKED (A. W. G., Surrey).—The blobs of jelly are no doubt eggs of one of the water snails, and the holes in the leaves the damage they do in feeding. We do not see the gritty deposit on the Pontederia to which our correspondent refers. The remedy against the snail attack is to keep the ponds supplied with fish, such as roach or dace, or even carp.

FRUIT UNDER GLASS.

TOMATOES DISEASED (T. W. W., Tenby).—The Tomatoes are affected with the disease called black spot, due to the attack of a fungus through the crack at the top of the fruit. All such diseased fruits should be removed and burned and the plants should be watered weekly with a solution of ½oz. of potassium sulphate to the gallon of water.

MISCELLANEOUS.

HOW TO DESTROY ANTS (M. M. C., Godalming).—To destroy the ants make a hole into each nest and pour in half a teaspoonful of carbon bisulphide, immediately closing up the hole. This is best done when the ants are all at home in the evening.

DRESSING TOMATO SEED (E. D. H., Norwich).—Wash carefully in several lots of water until the seeds are cleared of pulp, and then place outdoors to dry in the sun. Afterwards place in jars in a fairly dry place until wanted. Care should be taken that the seed is perfectly dried before it is stored.

ERADICATING BRACKEN ("Summer," Byfleet).—If the area is extensive the easiest and cheapest method is to break off the tops while the fronds are young. This could be done with an old scythe or a pliable stick, or it may be chain harrowed. If the bracken is treated in this manner twice a year, most of it will disappear in three years or so. This breaking of the fronds deprives the rhizomes of the opportunity of storing up nourishment so they practically starve to death. On small areas cultivation will be found a quicker, though more expensive cure.

NAMES OF PLANTS—Mrs. W., Thongsbridge.—Cistus laurifolius.——G. R., Elstead.—1, Abelia grandiflora; 2, Leycesteria formosa.——N. G. W.—1, Impatiens Roylei; 2, Buddleia variabilis (prune in early spring).——"Lysken."—Ophiopogon japonicus; quite hardy in this country and will bear berries.

A Rock Garden Scabious.—Making a dense mat of grey-green foliage, Scabiosa Pterocephala has proved a useful plant for the rock garden, thriving in almost any free soil under normal conditions. It is perfectly hardy, seems to stand drought and excessive wet with impunity, and one that can always be relied upon to flower regularly from midsummer to autumn when most of the alpines are over. The flower heads are a pleasing shade of lavender purple

THE GARDEN

No. 2598.—Vol. LXXXV.] [September 3, 1921.

NOTES OF THE WEEK

OUR readers will regret to learn that, acting on medical opinion which advised a more open-air life, Mr. Herbert Cowley is leaving The Garden. On his return from a sea voyage he will take up an appointment with Messrs. R. Wallace and Co. of The Old Gardens, Tunbridge Wells. Mr. Cowley's many friends, while wishing him full success in his new venture, will more particularly desire that, by acting on the recommendations of his doctors, his health may be completely and speedily restored. Mr. R. V. Giffard Woolley, who has been editing the paper during Mr. Cowley's enforced absence, has been appointed to succeed him, and the Proprietors hope that he will be accorded the goodwill of all alike, which it was his predecessor's fortune to enjoy.

A Bad Summer and a Busy Autumn.—Now that the partridges are once more being driven to the guns we realise that autumn is in truth again upon us and many gardeners to whom the present summer has been a time of sad trial will be glad to see the back of it so that they can, with renewed zest and hope, give attention to the details that are necessary for satisfactory crops next season. There will be no excuse for idleness in the garden this September. The abnormal summer has brought many crops to prematurity, and many trees are beginning to lose their leaves long before the proper season, so that, with extra vegetable crops to harvest, extra fruit to garner, and extra tidying up to do in addition to the usual seed-sowing, bulb planting and shrub-moving, the gardener may well scratch his head and wonder where to begin. While a large part of England needs considerably more rain it is sincerely to be hoped that we may get an abundance of open weather this autumn and that neither rain nor frost may appreciably hinder operations.

An Ever Improving Flower.—The notes on Mr. Watkin E. Samuel's Delphiniums will be especially interesting to the many thousands who saw the towering spikes he exhibited at Holland House Show or at an earlier meeting at Vincent Square. They all bore evidence of exceedingly good culture; but even allowing for this, and for the fact that [illegible] over-propagated varieties, they assuredly, as a whole, marked a distinct advance in a class of plant which had already made great strides of recent years. Half the interest in gardening lies in the new races of plants and the fresh arrangements and harmonies such new races make possible. There is, fortunately, every indication that, thanks to the hybridist, fresh strains will continue to be evolved and developed at a rate even faster than at present.

The Picture Tells a Story.—Our illustration this week depicts the brilliant Tropæolum speciosum growing and flourishing, despite the phenomenal drought, in a light soil in a Sussex garden. The contrast between the dark background, a little relieved, it is true, by the fresh greenery of the young growths and the vivid colouring of the Tropæolum was particularly pleasing. That this plant luxuriates in the cooler climate of the Scottish Highlands is well known, but that in such a season as the one now happily ended, it should be found growing and flowering freely within a comparatively short distance of the English Channel should be an inspiration to renewed effort for those readers who have tried and failed with this universal favourite. Another and very beautiful member of this family, Tropæolum polyphyllum has greatly enjoyed the torrid summer, and its myriads of golden blossoms and stout glaucous foliage should be more often met with on sunny banks in the rock garden and elsewhere.

TROPÆOLUM SPECIOSUM ON A YEW HEDGE.

Dissatisfaction at Flower Shows.—Complaints about the management of flower shows are of such frequent occurrence that, as a rule, little notice is taken of them. One cannot expect judges to view exhibits with the partial eye of the exhibitor. This notwithstanding, we think the action of the Floral Committee of the Shropshire Horticultural Society which led to much dissatisfaction with the awards to honorary trade exhibits at Shrewsbury Floral Fête was, as events have proved, though well intentioned, unwise. This in two respects. It is admittedly very undesirable that so important a society should give awards lightly or beyond the desserts of the exhibits staged, but it is more than doubtful whether the arbitrary fixing of a certain number of gold, silver-gilt or silver medals conduces to the result striven for. This was in all probability the real cause of discontent. One cannot split a gold medal, and where several exhibits are nearly equal in merit and quite dissimilar in character, choice in such matters is apt to become invidious. When the selection of those most worthy of honour is left to one judge, however able—and no one fitter or more able could, we are sure, have been found than the one selected—a burden is placed upon his shoulders which he should not have to bear. The Floral Committee would, we are convinced, be well advised to appoint at least two, and preferably three, judges for this important duty at future shows and also to abolish so rigid a restriction of awards.

British Bulbs.—The British-grown bulbs exhibited last week at the meeting of the Royal Horticultural Society were truly excellent and did great credit to the growers.

THE USE AND ABUSE OF CONIFERS

Conifers should, where possible, be planted this month. For gardens of any size there is no class of plant more essential to the production of a balanced, finished and restful effect. Even where space is limited the "spotty" effect so often seen can readily be avoided.

THERE is something distressing about the arrangement of Conifers in many places, particularly in surburban gardens, while the varieties used too often show a lack of imagination on the part of the planters. The most obvious instance which occurs to mind of this last failing is that which relates to the planting of Cedars, Wellingtonias and similar free-growing trees close to the house windows, so that, ultimately, the choice must be made between dwelling in perpetual twilight or sacrificing a beautiful specimen. For a long period before this stage is reached the tree has probably been a disfigurement to the house architecture, dividing into compartments a frontage which any planting should have served to emphasise. With regard to the actual arrangement, "spottiness" is the fault most characteristic and widespread. The rule of planting seems often to be "here a Lawson, there a Lawson," interspersed mainly with deciduous trees and shrubs, with perhaps a specimen Picea or two to bear them company. An enquiry as to the *raison d'etre* of the "Lawsons"—the gardener's name for the so-called White Cedar, Cupressus Lawsoniana, and used here to cover its numerous varieties—usually draws the response that they are to "provide furniture" in winter! Alas! it is in winter, when the surrounding planting is destitute of foliage, that their spottiness is so apparent and so appalling. In summer the effect, though unsatisfying and worrying to a critical eye, is hardly so blatant When one thinks, however, of what might have been, it fills one with an abiding dissatisfaction.

Each countryside has its characteristic scenery and its equally characteristic vegetation. Trees which succeed, though commonplace, give a far better effect in the garden than choice exotic species or nursery varieties which never look thoroughly at home. The hungry soil of Surrey seems admirably to suit the Scotch Fir, and in such situations this tree should be freely utilised for backgrounds, contrasted with the equally common, but wonderfully beautiful, Birch. For the rest most conifers succeed, and Cedars, including the beautiful Blue Atlas variety, and Silver Firs, such as the lovely Abies concolor, A. Lowiana, A. nobilis or A. Nordmanniana, may be planted where space allows, but the Cedars, especially, should have space to grow into specimen trees.

In richer soils among the hills and valleys of Warwick, Worcester, Oxon or Salop the Lawson Cypress is more at home and may freely be used for backgrounds, especially where these are not desired to be too tall or quick growing, which would be the case with such trees as Douglas Firs.

If the landscape lacks distinction, as in the broad meadowlands to be met with in Leicestershire and other counties, the sombre majesty of a plantation of Austrian Pines will do much to provide the needful contrast. The species is valuable, too, for garden backgrounds wherever the Scotch Fir does not bulk largely in the landscape. Its solidity makes it an admirable foil for more gracious trees and shrubs, especially for flowering shrubs. It has also distinct and noteworthy value as an avenue tree, associating very well for this purpose with the Lime, the rich yet sombre ruggedness and rather spreading habit of the Pine, and the slender, twiggy pyramids of its deciduous companion in winter or its pale green leafage in summer, forming varying but always pleasing contrasts.

The Douglas Fir is now often used for spinneys and plantations and also for backing to shrubberies. Its colouring is very characteristic, and for massed planting is a drawback; also the tree lacks something in density, but the Colorado variety, though distinctly slower in growth, is admirable, if distinct, in colouring, and its density quite satisfactory. Just as a few Poplars will often make distinguished and beautiful a group of planting otherwise hum-drum, so a small clump of the typical Douglas Fir will oft-times enliven and add variety in colour and outline to an evergreen planting.

For deep, cool soils especially where rain is abundant, the Hemlock Spruces (Tsuga) are of great value. Their distinct, finely cut foliage and their general carriage remind one of the Deodar—remind one, but that is all. They are quite distinct.

T. Albertiana forms, as a rule, a shapelier tree than the more commonly seen T. canadensis. Equally beautiful and more accommodating as to soil and atmospheric conditions, T. Pattoniana, not infrequently met with in gardens under the name T. Hookeriana, with bluish grey foliage, is not used as much as it should be.

More common, and so more readily available for massing, is the common Spruce—the "Christmas-tree" of our childhood—and its allied species, Piceas orientalis and nigra. For plantations both the common and black varieties are very beautiful where they succeed, which, contrary to the common impression, is not everywhere. For nearer inspection the Oriental Spruce should be used. It is doubtful if there is any more beautiful conifer than a well grown tree of this species.

Our choice of coniferous trees for backgrounds and plantations need not be confined to those mentioned, the Junipers, Juniperus virginiana in particular, are very suitable where space is a consideration and with them may be used Lawson's Cypress and its more erect varieties, Thuya gigantea and in our Southern and Western Counties and along the Western seaboard some of the true Cypresses, such as macrocarpa, sempervirens or arizonica.

Too many golden and variegated shrubs in a garden are a great mistake. A few specimens of such choice conifers as Cupressus Lawsoniana lutea, Juniperus chinensis aurea (Youngii), Cupressus (Retinispora) pisifera obtusa densa aurea (or obtusa Crippsii) may be used sparingly in the front of shrubberies to give winter colour, but all evergreen backgrounds should be a deep solid green, lightened, it may be, with deep glaucous tints, but the lighter greys, such as those provided by Juniperus pachyphlæa and some true Cypresses, are better kept for the foreground, and there used sparingly.

Very beautiful, if not overdone, are the Golden Irish Yew and the spreading Taxus Dovastoni. A dignified, quite formal garden alley may be carried out with close clipped green English Yew hedges widely spaced, and the pathway between defined by Golden Irish Yews.

SOME SPECIMEN CONIFERS.

Picea Pinsapo, Cedrus Deodara, Juniperus virginiana, Picea pungens glauca, Cedrus Deodara and Cedrus atlantica.

There is a quiet, unpretentious beauty about any conifers which repays close study, and many the Lawson Cypresses are very charming. nless it be for solid backgrounds where expense ust be a consideration, the writer has no use r the typical plant. He considers Cupressus ootkatensis (Thuyopsis borealis it used to be lled) far more effective, but such sorts as upressus Lawsoniana Fraseri, C. Triomphe de oskoop and C. Allumi of the taller varieties re almost indispensable, while versicolor, if mewhat bizarre, is fascinating. Of the slower owing kinds albo-spica, Shawii and particularly issellii, are admirable. The rigid columnar abit of the last named makes a great appeal some temperaments, while in others it inspires n equally hearty dislike. One cannot help eling that instinctively, as it were, one's disosition and ideals influence one's tastes in these natters. Some admire strength above all else, me aspiration, some grace, some formality, some nconventionality, and their special ideals will enerally be found reflected in especial favourites n the garden and in their disposal of them. But re digress.

Of the Thuyas, gigantea has already been nentioned. Its principal attractions lie in its apid growth and columnar habit. It is a lax-rowing tree and should be kept in the back-round. There are a legion of varieties of both rientalis and occidentalis, many of them quite eautiful, especially in winter when they put on usset mantles of many shades. The varietal ames are not too well established and there are uch a numerous family, but they may easily e selected in the nursery. Bearing in mind the varning already given anent the too free use of coloured conifers, Thuya Vervæneana is, on soils n which it retains its colour, a beautiful shrub and it has a fine pyramidal habit.

The Pines are, with rare exceptions, too large for use as anything but backgrounds, except in grounds of considerable extent. Noteworthy among the few smaller-growing sorts are Mughus (montana) and Cembra (Swiss Stone Pine). This last makes beautiful pyramidal specimens of quite slow growth.

Almost all Pines are worth growing where space allows. P. insignis (Monterey Pine) is truly remarkable for the quickness of its growth. It must, of course, be established while small as it quickly becomes untransplantable, if so ugly a word may be forgiven. Its lustrous, brilliant green foliage is quite distinct. P. Coulteri is relatively slow growing. Its distinguishing feature is its extraordinarily long, rather dull needles. A beautiful species none the less. Pinus Strobus (Weymouth Pine) succeeds best near the coast, but Pinus excelsa, which is very similar in general appearance, "does" anywhere and has a healthier looking appearance. Both species are too light in colour and too thin in growth to form effective backgrounds. The ubiquitous Austrian Pine and the so-called Scotch Fir have already been mentioned.

The Redwoods, Sequoia sempervirens and gigantea (Wellingtonia) are almost too well known to need mention. The former is of little interest except to the collector, and the latter, like the Araucaria, is too Victorian for present day taste and is seldom now planted. It is none the less a fine avenue tree. A cousin to these, the so-called Deciduous Cypress, Taxodium distichum, makes a handsome tree, and like that other deciduous conifer, the Larch, is particularly beautiful when first it bursts into leaf in spring. Informal grouping of Larch in backgrounds of Fir or Spruce should always be arranged where possible. They add a pleasing variety and the pea-green foliage is, for a week or two extremely gracious.

THERE ARE FEW GRANDER TREES THAN A WELL GROWN DEODAR.

We have now wandered in fancy through all the great families of conifers except such out of the way genera as Libocedrus, Podocarpus, Cephalotaxus, etc., to say nothing of Sciadopitys. These have all individual beauty, but save in the largest grounds will, with the exception of the last named, hardly find a place. Sciadopitys verticillata is an easy shrub to cultivate, albeit of slow growth. It likes a situation in at least half shade. It will grow in quite shady corners. It must have a root run of light soil which does not contain free lime. The secret of its charm is difficult to place. It has a neat pyramidal habit of growth; so has the Stone Pine and the Stone Pine needles are more pleasing in colouring! Anyhow, many people, the writer included, have an affection not to say admiration for the Umbrella Pine which reasoned argument cannot displace.

We have, as already mentioned, touched on all the great coniferous families, but in our wanderings we have missed quite a number of species and varieties which now call for mention. Picea pungens glauca used, despite its unpleasant smell, to be a great favourite, but owing to its indiscriminate use as dot plants in suburbia and to its unfortunate liability to attacks of aphis which, if not promptly attended to, destroy the tree, it has fallen in estimation of late. None the less a really good specimen happily placed is a beautiful picture. Abies concolor and the somewhat similar A. Lowiana, often called lasiocarpa in gardens, have already been mentioned, but a well coloured form of either is as beautiful an object as one could well wish to see. The distinctness of each deep green whorl of branches and its wonderful symmetry mark a well grown specimen of A. Nordmanniana, while the equally rigid but longer needled and more glaucous whorls of A. nobilis have a dignity all their own. Very remarkable are the large loosely strung cones of this species which at a little distance look like wise young owls sitting in the topmost branches.

Pseudotsuga Douglasii and its Colorado variety have already been mentioned, but a fine form called Douglasii glauca with foliage almost the colour of an Andalusian fowl is worthy of more extended cultivation. It is naturally (and fortunately) slower growing than the ordinary Colorado variety. Others worthy of mention are Cupressus Lawsoniana Stewartii, looser habited than C. L. lutea and of a paler sulphur shade, and the Cryptomerias, which, especially japonica, are so valuable where distinctly quaint or oriental effects are desired.

For the fronts of shrubberies and such like places many of the prostrate Junipers are suitable, such as, for example, tamariscifolia and Sabina prostrata, also the upright J. hibernica. Many of the slow-growing forms of Cupressus Lawsoniana, long classed as Retinispora, such as filifera, filifera aurea, squarrosa Veitchii, ericoides, not to mention pisifera—both the typical plant and the variety plumosa with their respective variegated forms—serve the same purpose, as do some of the dwarf forms of the common Spruce, Clanbrassiliana, pygmæa and the quaint little pyramidal Remonti. More beautiful than most is the very distinct Cupressus sulfurea, while C. obtusa nana, C. obtusa tetragona and tetragona aurea are also interesting and beautiful.

No definite rules can be laid down for the arrangement of the many species and varieties thus roughly outlined, but if care is taken to prevent "spottiness" by using conifers as a continuous background, which is allowed here and there to, as it were, break through the lighter deciduous planting in front and to arrange them with a sufficiency of contrasts, remembering that there is a contrast of habit as well as of colour, the arrangement should be a success. Care will naturally be taken to see that each tree serves some definite purpose in the garden picture—that it is not being put there merely because it is a rare specimen—and that each valued tree has room to grow and is in a suitable soil and situation. It is easy to fill in shrubs for temporary planting which can subsequently be removed or cut away.

If Larch be used for this purpose, their timber when ultimately their room becomes preferable to their company, will, at the least, be useful for stakes or rails. For the fronts of shrubberies short-lived plants such as Brooms can [illegible] time comes, be remo[illegible]

THE WREXHAM DELPHINIUMS

Some Impressions of Mr. Watkin E. Samuel's Novelties.

LIKE some comet in the sky Watkin E. Samuel suddenly appeared in the horticultural firmament trailing behind him pale blue and rich purple streamers, which fancy has made me think of as its tail. Fortunately for us this new phenomenon has this year been twice visible in London. Visitors at Vincent Square on June 22, and again two weeks later at Holland House, saw it and went home well pleased that it had fallen to their lot to do so. With their own eyes they confirmed the well considered opinion of the experts who had in their particular conventional way, by means of awards of merit, on each occasion publicly said that it was a great sight. What will be the orbit of this newly found comet? Halley's appears once in seventy-six years and Donati's once in 2,000; when will we see Samuel's again? From inside knowledge I think I may safely say in 1922. A motor took me last July to the workshop of the gods on the ascent to the town of Wrexham as you approach it from the west, and there I saw the busy preparations which will ensure an annual supply of goodly bolts from the blue which neither next year nor a good many years after that are likely to exhaust.

NEW DELPHINIUM QUEEN MAUVE

In plain words, Mr. Samuel has as good Delphiniums in his garden as he has taken out of it. The beautiful varieties which he took to London, and of which five received awards of merit, do not exhaust the patient labour of twelve long years. At the very start, when he bought his first plants, he had said to himself, "I am never going to exhibit my seedlings anywhere until I feel I have got some good enough to take to London, and I do not intend to go there unless I think I can take some which have a reasonable chance of getting awards." Many and varied are the pleasures which the great god "Gardening" gives to his devoted followers. It always has been so, and I can only hope that so it will always remain. For me the development of some particular genus or species has always had a supreme fascination, and I have a strange fellow feeling for all whose object is to materialise the hidden potentialities that the Almighty has in the beginning locked up in them. I am no botanist, and I do not know the names of the first parents of the race we now popularly call Delphiniums, but I am old enough to be able to contrast the achievements of thirty years ago, when I myself had a considerable collection and was mad on securing a gentian blue, with the splendid spikes and fine flowers which we now have in Millicent Langdon, Cambria and Jenny Jones. All the great Delphinium-producing firms—Kelway's, Blackmore and Langdon's, Bath's and the rest—have had this year to give up the pride of place to Watkin E. Samuel. Has he plants coming on which will enable him to maintain this ascendancy? Will Beckett ever be beaten in the next five years? The answer to both questions is "I cannot say." But I do know that Mr. Samuel, at all events, will put up a good fight. He has got the stuff to do it with and he is never idle. He has ideals. He sees visions. What pleasure, what encouragement when an advance comes! He wants to get a good shaped full double after the type of a florist's Ranunculus. Blue Rosette, flowers of which were, I believe, sent to our Editor last summer, is at present the high water mark. Pure singles he ignores, for the very practical reason that their flowers do not last nearly so long as those of the semi-doubles, hence Cinderella, a delicious large pale blue, was passed over, and unless my pleading has been successful, will have but a short life. It is the semi-doubles that Mr. Samuel is after. Blooms of adequate size to suit a spike of 3ft. to 4ft. long, with at least three or four rows of petals, of which the exterior ones must be bigger and more important-looking than the others; and prominent bee-like centres of black, blue or khaki, or perhaps of a contrasting colour when it is more of a petaloid character. The pedicels are important factors, because if they are slender and long a certain grace is given to the spike, and it is much easier to hide the top of a bamboo cane in them when a stake is necessary than if they were shorter. Stakes used, with me, to be always wanted on account of the Delphinium wind which always came to visit us with unfailing regularity about the middle of June. In the ideal disposal of the flowers on the spike I am very much at one with Mr. Samuel. I am not satisfied with the rather packed mass which is arranged with Hyacinth-like precision, as in the case of the dark-eyed Millicent Langdon, which was one of the few foreigners that I saw at Wrexham, or

THE NEW DELPHINIUM MONARCH OF WALES

Queen Mauve, an exceptionally lovely eyeless mauve with a very graceful spike—3ft. long, wide at the base and tapering at the top, and with but few side shoots—I would like to see something less stiff, and since my visit Monarch of Wales has flowered for the first time. In a covering letter Mr. Samuel says: "I think this more nearly approaches my ideal than any I have yet produced. The whole of the front petals are a purplish red and the back petals a good dark blue. The eye is white. I broke off one bud in taking out the bamboo cane in order to photograph the plant." I feel sure that I should have agreed had I seen. One other point that has to be considered is the number of side shoots that spring up around the base of the main flower-spike. Too many are a mistake. They do not add to its dignity; hence in selecting survivors in every batch of seedlings the prevalence of these unwanted side shoots has to be taken into consideration.

In Nonsuch we get a new break in centres. The large, shapely pale lilac blooms have a prominent pale khaki centre, and the combination is not only novel but distinctly pleasing. In this variety (to illustrate how small matters count in selection) the pedicels come off at right angles to the main stem. This adds to the general look of the whole and is always worth noticing. Amazement went to London, but the Floral Committee passed it. I wonder why? I fancy they would have considerable difficulty in producing any flower where the pink is more pink, or where the combination of pale pink and pale belladonna blue is more fascinating and distinct. A little bird told Mr. Samuel that some said its flowers were too single. Must all singles be "butcher'd

make a Roman holiday"? Just to please e sellers must such beauties be sacrificed? *ust it be so?* If it be so, then all who want ıgles must raise their own. The Villain stands t. high. The flowers are a *very* dark shade of ırple and blue. Even the centre shares the ıeral tone, and although there is not much eye, hat there is is black. Mr. Samuel considers is his best "dark." Cambria, a pretty harmony pale mauve and pale blue, has already been entioned but John Jones, a plant of excellent abit, with a flower-spike 3ft. 6ins. in length and rge individual blooms of deep mauve and rich ue, has not. These Welsh names tell us much. ll the varieties which bear them are something od. Mr. Samuel is a keen lover of his native land, and accordingly names his best seedlings in a patriotic manner. John Brown (No. 99) is a grand plant of medium height with red-toned heliotrope and dark blue flowers. The bottom of the spike is unusually wide and the petaloid centre is very distinct. No. 80 has beautiful blue flowers with purple tips to the petals and white centres. Smike is a real blue. It is a tall grower, but its flowers are not sufficiently large. It has been used for some time as a pollen parent.

These are a small selection of the varieties that have already bloomed. Mr. Samuel has enough of these to provide an excuse for journeys to London for some years to come, and then there are the unbloomed plants as well!

JOSEPH JACOB.

Garden Notes from a Western Seaboard

By SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

ONE does not often meet with Hydrangea Thunbergi in private collections, but it is a pretty little shrub deserving more attention than it receives from amateurs. It grows ut 2ft. or 3ft. high, and is liable to be smothered y more robust neighbours. The flat corymbs of loom are very delicately coloured, the outer and terile flowers being bright rose, encircling the ertile flowers within, which are also rose tinted, ut add a mist of violet anthers to the composition. t flowering time the upper leaves ecome stained with brown madder, vhich admirably sets off the blossom. Like others of the genus, this Hydrangea is readily increased by uttings; and, here at least, it is erfectly hardy, having passed uncathed through twenty or thirty vinters.

Hydrangea vestita, *Wallich*, is nother species seldom seen in cultivation. It has grown here to the dimensions of a small tree, 20ft. high, and with a stem girthing 22ins. A native of the Himalayas, it bears fine foliage, the oval leaves measuring 5ins. to 6ins. along the blade, rich velvety green on the upper surface, clothed with silvery down on the under surface, and set on bright red petioles 1½ins. to 2ins. long. The flowers are borne in flat corymbs 6ins. to 8ins. across. On our plant both sterile and fertile flowers are dingy white, tinged with pink; but I understand that some plants of this species do better in that respect.

I had an agreeable surprise lately. Some years ago Sir Frederick Moore sent me from Glasnevin a root of Lobelia Cavanillesii, which we planted in a moist and somewhat shady border. There for several seasons it produced leaves in abundance, but never a flower, and it had a narrow escape of being thrown on the waste heap. Last year, however, I thought it should have a chance in a sunny situation; so we divided it into three clumps, which were planted under a south wall and forgotten. Passing that way yesterday (August 31) my eye was attracted by a fine display of scarlet and yellow, which, on nearer inspection, proved to be the response of this gay little Chilian to a warmer environment. It is a very pretty flower, with a colour scheme similar to that of its compatriot Desfontainea spinosa—to wit, a scarlet tube opening into clear yellow.

It is noteworthy how largely scarlet, carmine and orange prevail in the flora of Chile. Among British plants these colours are seldom displayed; in fact, I can name but two that have a scarlet corolla, the Shepherd's Weatherglass (Anagallis arvensis) and the field Poppy (Papaver Rhœas), the latter having broken into a score of delightfu flashes of carmine, pink and pure white under the skilled hands of the Rev. W. Wilks. But both of these are weeds of cultivation, having, as George Bentham observed, "accompanied man in his migrations over a great part of the globe." It is very doubtful whether they were not originally aliens, though it must be centuries since they received British letters of nationalisation.

Orange is even more rare than scarlet in the corollas of British plants. The Bird's-foot Trefoil (Lotus corniculatus) often displays it on its standard; but, with that exception, there is only the orange variety of the Welsh Poppy (Meconopsis cambrica). There is something in our climate that suffuses almost all our red flowers with blue, in extreme cases resulting in strident magenta, as in the melancholy Thistle or Knapweed (Centaurea nigra) and the Bloody Cranesbill (Geranium sanguineum). On the other hand, a Chilian environment seems to favour the production of scarlet, orange and pure crimson, as in Embothrium, Mutisia decurrens, Hippeastrum pratense, Mitraria coccinea, Lapageria, Philesia, Alstrœmeria and a host of other brilliant things. In New Zealand, again, vivid colour is the exception, especially among shrubs, the great majority bearing white or yellow flowers, Nicholl's crimson variety of Leptospermum scoparium forming a notable exception.

A singular incident came under my notice during the late drought. When perambulating with a friend our sunburnt lawn, whence almost all trace of verdure had been scorched away, I noticed large patches of pale pink, which, on closer inspection, proved to be the flowers of about the last plant I should have expected to find in such a situation—namely, the Bog Pimpernel (Anagallis tenella). That particular lawn is the driest in the grounds, the rock being very near the surface. How this essentially hydrophilous little plant found its way thither, the nearest station for it being by the side of a rill about a mile distant, and, having done so, managed to maintain vigorous existence, passes my comprehension.

Would that more species of Lily had the constitution of L. Sargentiæ and lent themselves as readily to propagation. I hear complaints from southern gardens that it does not come happily through wet winters. Well, "wet" is but a feeble epithet for the winters we have had in the west of late years; yet the progeny of the bulbs originally received here, raised from the bulbils which stud the stems so thickly, have suffered no harm, increase in vigour each year, and are now among the choicest ornaments of the herbaceous border. Some of the Loosestrife family are too aggressive for admission to that part of the garden, but Lysimachia Ephemerum behaves in gentlemanly fashion, sending up spires of white flowers, violet tinted borne on 3ft. stems clothed with glaucous leaves of a peculiarly attractive sea green and never overrunning its neighbours. Of greater height and flowering at the same season—August—is Veronica virginica, white flowered like the Loosestrife, but with whorls of deep [illegible]

A FINE SPIKE OF LILIUM SARGENTIÆ.

NOTES ON THE ELEMENTS OF TERRACING

Many gardens of all sizes are situated on sloping ground. This should be very advantageous. It can only be so if the rise or fall is intelligently treated. Follows the method of adapting a plan prima facie intended for a flat site so that it may apply to a hilly one.

IT has been felt that as many readers with sloping gardens would probably like to avail themselves of suggestions made in these articles which do not obviously apply to gardens on rising or falling ground, it would be wiser to overcome the temptation to set forth an entirely new design.

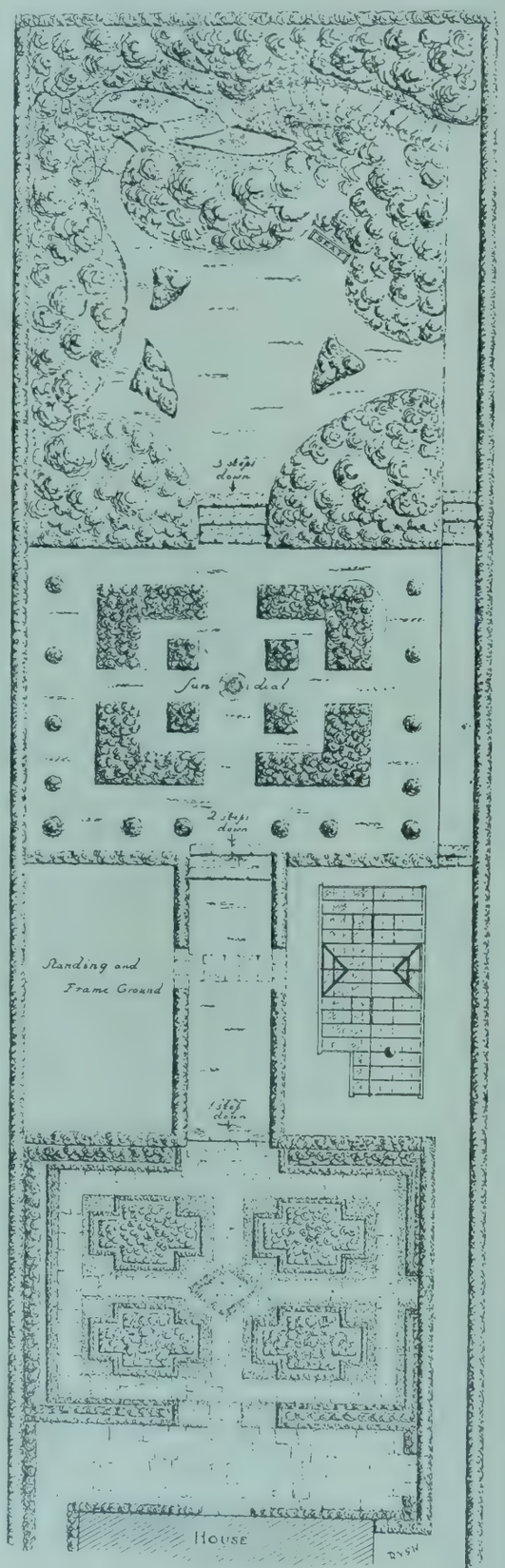
The plans which accompany these notes are accordingly the same as were dealt with in a previous article, except that they have been adapted, the one to illustrate a treatment for a garden rising from the house, and the other for sites where the house stands on an eminence and the garden slopes away from it. Almost all plans for suburban gardens would be susceptible of similar emendation.

Before starting to lay out such gardens, our amateur garden architect should find out the total fall in the length of the garden, and also ascertain the length, if this be not already known. He should then set up an elevation, preferably to a vertical scale, say, four times the horizontal.

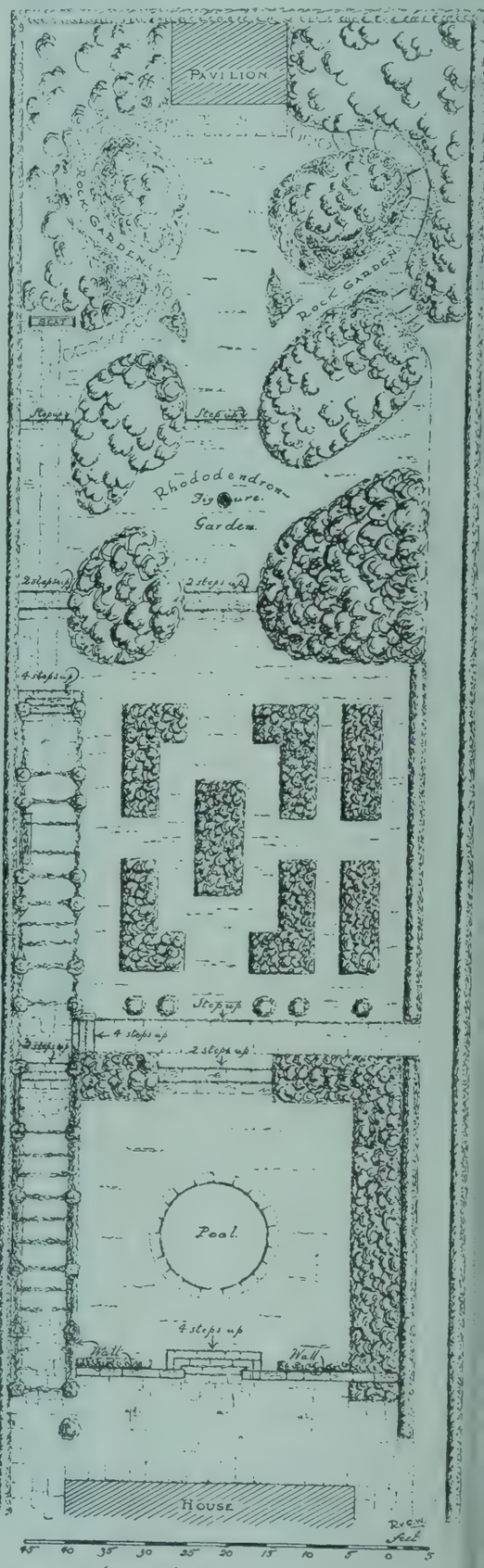
We will presume he has already decided on the general features he would like to incorporate. Let us for the moment suppose that he likes the arrangement shown in Fig. 2, page 406 of our issue of August 13. He will then try the effect of inserting steps, as required, in places where they will best form part of the scheme. If he can so contrive it that the general effect is concave the final effect should be satisfactory. It is not necessary slavishly to adhere to any curve laid down, but in a series of gardens if the contours differ widely from *some* wholly concave curve, a "hog-backed" effect is almost certain to occur somewhere in the treatment.

A suitable arrangement of steps in the garden in question is shown in Fig. 1. The rock garden at the top of the garden is intended to be carried to considerably higher levels with the aid of soil excavated in the grading process. Apart from this and the gentle slope which it would be desirable to leave and which would be quite unnoticeable, the rise as shown, supposing the steps to have 6in. risers, would be 3ft. No garden steps should have risers in excess of 6ins. Probably as much again might be obtained by the grading of the ground, but the number of steps shown could easily be increased. It might in such a case be desirable to insert one step at the entrance to the Dutch garden, though, in order to avoid a "buried" effect, the slope up from the house should at first be very gradual. The service path in this case slopes up as far as the greenhouse; beyond this it must obviously be stepped, but shallow garden steps, if reasonably wide in tread, will not prevent the use of a wheelbarrow.

The other illustration (Fig. 2) shows the situation reversed. The terracing here is steepest next the house, gradually smoothing out, as it were, as it nears the pavilion at the bottom end. The pergola on the left-hand side could be similarly treated, but it would make it a greater feature and give more distinction to the garden if, as shown, the upper part were carried level with the terrace, falling half way as many steps as may be necessary to keep it 2ft. or so above ground level. If six steps were, for example, necessary at the upper terrace, and three and one—four in all—at the paved cross-path, two steps would lead down into the pergola, and four half way down would leave it still 2ft. above the level of the rose garden. The service path could in this instance, unless the slope were very great, be allowed to fall with the ground. A point arises here as to the planting of hedges where the ground is on different levels on their two sides. Generally speaking, and always where ground is level on one side and sloping the other—or sloping variously on both sides—the hedge should be planted on the lower ground, and the soil retained on the other side by dry walling. The hedge should be trimmed to follow the level ground, or the ground which the eye is intended to regard as level, and "steps" must be introduced in it to keep it at useful height from the side on which lies the sloping ground.



(FIG. 1) AN UP-HILL GARDEN,



AND (FIG. 2) A DOWN-HILL ONE.

In this figure the upper terrace is shown retained y a wall, as is, of course, the terraced treatment f the pergola. Three other steps, or short flights, re carried out between sloping beds carrying hrubs, while one represents a continuous step cross the garden. Another method which is ften used for the purpose is more or less analogous vith the steps between clumps of shrubs; that is, he method of supporting terraces with grass anks. Formal side walls, properly coped, will hen be necessary for such steps. This is a very seful method, and in its place gives very soft nd restful effects. As, however, to allow of asy cutting and to prevent the turf parching, uch banks should not be steeper than 2 in 7 2ft. high needs a 7ft. bank and so on in proportion), hey are apt to take up so much space in a small arden as to make it appear unnecessarily small. Where a wall is employed some form of parapet vill be necessary. The character of this must argely depend on the character of the house and ts surroundings, and also, naturally, on the expense it is desired to incur. There is one comfort or the economist, anyway: a parapet or balustrade too severe or simple always looks better than one over-ornate. A simple, but perhaps pleasing, house and a pretentious balustrade form an appalling combination.

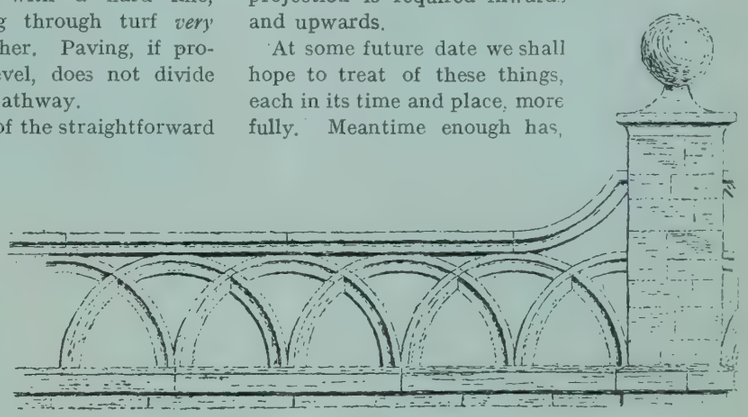
Some parapets and balustrading in varying degrees of elaboration are illustrated on this page. The plain stone-capped wall, with the pillars at the corners and those at the head of the stairs finished with a plain cup and ball, is suitable for many situations. If not original, it is always neat and pleasing. The two designs at the top are original, and both Gothic in character. They are simple and lacking in meaningless curves and filigree. The tiles and stone design in the left-hand bottom corner is Tudor in character. Among the remainder will be found styles suitable for almost all the more or less nondescript—the term is used in no disrespectful way—styles now in use.

There are many details of terracing which cannot be taught in black and white, such as the proportioning of grass, beds and paths. If the whole art of landscape design might be taught by articles there were no need of the garden architects, who have (or at any rate should have) devoted many years of study and experiments to their work. A useful hint, however, which the amateur should find of service is not to "try out" beds, borders and paths in the garden with the aid of pegs and string, but to experiment with them on paper in black and white. This will save labour and will give a much better idea of proportion and more nearly represent the finished result. For this purpose shade in the beds—no matter how roughly—shading shrubs or trees more heavily than herbaceous or bedding plants; mark all gravel paths through greensward with a hard line, but either shade in paving through turf *very* lightly or even omit altogether. Paving, if properly laid at almost turf level, does not divide lawns up as does a gravel pathway.

Not all flights of steps are of the straightforward character of those illustrated in the accompanying figures. Steepness of contour and exigencies of space may make steps which follow for a large part of their course the outer surface of the wall desirable, or such a flight may, in some situations, be desirable from the point of view of effect. Semi-circular and other segmental steps, too, have their uses, though it is permissible to say that they have of late been somewhat "overdone." Their principal use should be for steps in the outward or inward angles of terrace walls, or in similar situations at the angles of tennis or croquet lawns or two-way terraces. Their use is only justified for stairways through a straightforward terrace wall or bank when the general effect striven for is quaint rather than spacious. Very beautiful and satisfactory steps for quaint effect are to be seen, carried out in brick, in the old world garden at Packwood House, in Warwickshire. The foregoing remarks apply to external (projecting) segmental stairs; internal segmental treads are often useful where the effect at the top of the flight is intended to be spacious: they invite one to go which way he will! Speaking generally, rectangular returning treads look better where the flight projects downwards and curvilinear, usually segmental ones where projection is required inwards and upwards.

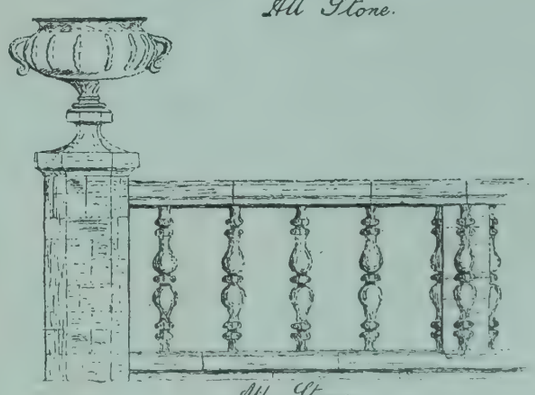
At some future date we shall hope to treat of these things, each in its time and place, more fully. Meantime enough has,

All Stone.



All Stone.

All Stone

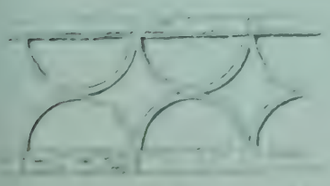


All Stone.

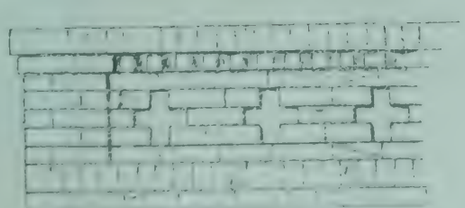
All Brick.

Brick, Stone Coping & Balls.

All Stone



Stone & Half round Tiles



All Brick

DESIGNS FOR GARDEN PARAPETS AND BALUSTRADING.

we hope, been said to enable possessors of hilly gardens of the suburban type to appreciate and apply designs *prima facie* intended for flat sites. The larger garden with involved cross vistas is another story and, as regards its detailed treatment, beyond the scope of such articles as these.

New and Rare Plants

DAHLIAS and Kniphofias were the principal floral novelties at the last meeting of the Royal Horticultural Society. Mr. H. J. Elwes brought several of the uncommon plants that he grows at Colesborne. Hedychium Elwesii, which he collected at Shillong, India, in 1886, and showed as a growing plant, was of handsome foliage, and the dense heads of brilliant orange crimson flowers were very striking.

Kniphofia elegans Prince of the Netherlands.—This is an improved dwarf variety of the popular Red-hot Poker flower. An interesting selection of new Dutch varieties, which differ from the type in having brighter colours, were shown, and this was the best of them. The bright coral pink flowers were very showy. Award of merit to Messrs. E. H. Krelage and Son.

Gladiolus Yellow Perfection.—The spikes were well furnished with large, shapely flowers. In the bud the colour is a greenish yellow. This soon becomes a pleasing soft canary yellow with a few faint carmine lines towards the tips of the perianth segments which are lightly flushed with the same colour. Award of merit to Messrs H. J. Jones.

Gladiolus Miss Dorothy Yorke.—This is another shapely gandavensis variety. The tall spike bears plenty of flowers, on which the creamy ground colour is freely edged and flushed with pink. There is a vivid blood red blotch on each lower segment. Award of merit to Messrs. Kelway.

Solanum ovigerum coccineum.—In the centre of a large collection of Capsicums in pots and bearing quantities of interesting fruits there was a fine batch of the above variety, which appears to be very like the one that used to be grown on the Riviera and treated as a fruiting everlasting for winter decoration associated with sprays of Eucalyptus and Mimosa. The plants at Vincent Square were well furnished with corrugated bright crimson fruits. Botanical certificate to the Hon. Vicary Gibbs.

Out of a goodly number of new Dahlias the following were selected by a joint committee of the Royal Horticultural Society and National Dahlia Society for trial at Wisley next year:

Dahlia Crimson Star.—A very effective rosy carmine addition to the Star Dahlias.

D. Reigate Star.—The uncommon buff colour is freely tipped and flushed with rosy mauve. It is a very pretty and good-shaped flower.

D. Cheal's White.—This is a dwarf pure white bedding variety which is said to grow only 2oins. high. It is quite the best of its type. The three foregoing were shown by Messrs. Cheal.

D. Comrade.—A large-flowered decorative variety which possesses a good stalk and is of clear pale scarlet colour.

D. Novelty.—An uncommon decorative variety of good size and shape. The white ground colour is plentifully flushed and striped with lilac.

D. Champion.—This is an exhibitor's Cactus variety with flowers too heavy for their stalks. The long quilled brick red petals curve inwards.

D. Yeoman.—Another show Cactus variety. The centre florets show the slaty colour of the undersides. The outer petals being purplish maroon, the contrast is rather startling. The four last named were shown by Messrs. Stredwick.

THE CULTIVATION OF MUSHROOMS

These culinary favourites have not hitherto received the attention in private gardens that they assuredly deserve. Where stable manure is procurable, their culture is of the easiest.

ONCE again the season has come round for making preparations for the Mushroom crop. The culture of these delicacies in private gardens might well be more extensive. It may therefore not be inopportune to describe the methods employed by the trade growers—methods

MUSHROOM BEDS MADE UP AND SPAWNED.

proven in the school of experience. It may be pointed out that many trade growers raise their own spawn. The amateur must purchase his, and it is of the utmost importance that he procure a good quality. The so-called virgin spawn, which is run from sown spores, gives by far the best results. Good horse manure is the most important essential, and, unfortunately, in many districts this is both scarce and expensive. There are trade growers who have to send over a hundred miles for their manure, yet in spite of the heavy expense this entails they do not appear dissatisfied. Another grower known to the writer provides a racing stable with all the straw it requires the year round in return for the whole of the manure. One would hardly think it would pay to do this, but obviously it does, although in this particular case it is often difficult to get sufficient straw, and rather more manure is made than the grower requires. Frequently other than horse manure has been tried—manure from cow sheds and bullock yards—but always with unsatisfactory results. "The spawn will not touch it," as the growers say.

From November to February the Mushrooms are grown in sheds, for, unless the weather is exceptionally favourable, outdoor beds will not bear much before March. All the Mushroom sheds I have seen have been huge: about 300ft. in length and 100ft. wide, and lofty into the bargain.

Until required for use the manure is always stored beneath a shelter of some sort—a rough building of hurdles or faggots. Then about a week or ten days before it is used it is turned three or four times, an interval of a day being allowed to pass between each turning. The next process is to place the manure in a ridge, about 30ins. at the base and 6ins. at the top, trampled and beaten together as firmly as possible. After this it is covered with straw to help it to retain its moisture, and in the case of outdoor beds, to protect it from rain. Then, a few days having elapsed, the straw is removed and small holes are bored in the manure from the top to about half way to the ground to let off superfluous heat, and the straw replaced.

The spawn is planted when the temperature of the ridge stands at about 75°. As a rule, a ridge reaches this temperature after having been made about a couple of weeks. The blocks of spawn are broken up into pieces about the size of a walnut, and the pieces planted about 9ins. apart and 3ins. deep.

The spawn is examined occasionally, and, as soon as it begins to "run," the ridge is cased with earth to the depth of a couple of inches. Care is exercised to use only good mould; road scrapings and well matured leaf-mould are held to be as suitable as any. Heavy and clayey soil should be avoided. Before being placed on the ridge the mould is turned a few times and watered if it seems to be too dry. Then, when the casing has been completed, all is covered up again. This time tarpaulins and old sacks as well as straw are used, not because darkness is necessary, but to help the beds retain an even temperature.

In a favourable season Mushrooms begin to come in about six weeks. A bed will bear continuously for many weeks, but, of course, new ridges with fresh mould and manure must be made each year. The used manure and mould may be dug into the garden, where it will help things greatly.

Thus, in brief and roughly, is the process employed by the Mushroom grower. It is most interesting and fascinating work, in addition to being profitable. On the South Coast this is an important, extensive and rapidly expanding industry.

J. C BRISTOW-NOBLE.

THE CROP ALL BUT READY.
Note the crowds of tiny buttons just peeping through the soil.

CORRESPONDENCE

THE ARRANGEMENT OF GARDEN STEPS.

I AM afraid your contributor who was responsible for the article in the issue of July 30 can hardly ave given sufficient thought to his subject, or he ould never have held up as desirable either of he arrangements of steps illustrated on page 377. need not concern myself with what he calls the wrong way," which is so obviously wrong. Jnfortunately, what he calls the "right way" s no better. He illustrates a continuous flight f steps consisting of sixteen risers. No scale is given with the drawing, but this is quite immaerial, as there are limits to the height of a riser f it is to be useful and comfortable. The fault n the suggestion made is not, however, one of nere measurement, but concerns the utter impracibility of the whole idea. To carry out this dea as illustrated, if a uniform height of riser is adopted (and nothing is more annoying in garden steps than a variation in the height of the riser), involves constructing the steps with a different width for each tread. Variations in the treads are not so annoying as differences in the height of risers, but a variation of width in every tread throughout the whole fifteen would not be pretty, and in use would be intolerable. But suppose we look at it from another point of view and try to keep the treads of equal width throughout; the result is just the same, and inevitably you get either treads too wide, or risers too low or too high at some point in the ascent. By referring to the illustration you will find that the solution to the problem arrived at by your contributor is an absolutely impossible one in practice, and yet it is the only possible way of constructing a continuous flight of steps to the concave line he gives as desirable. It consists of making every tread and every riser throughout the whole stairway of differing width and height. What is worse, the upper steps are formed of treads that are very nearly the same in width as the risers are high. Approximately, this works out as follows: In the five or six upper steps, assuming the risers are, say, 5ins. high, then the treads will gradually increase from the top downwards from 5ins. to 8ins. wide. In practice, although the average height of the riser was 5ins., each step up would increase this height. The reason this solution is impossible in practice is because some of the steps would be too wide for one pace and not wide enough for two, and this would involve an ordinary pace, and a second short one, to ascend each step. This is very unsatisfactory, and tiring to the user. Even supposing this could be tolerated, when the upper steps are arrived at there would not be sufficient room to place the foot, and this at a point where the risers became so steep that they required an extra effort to climb. Garden steps should be made as easy as possible, and it is not fair to ask the user to accommodate himself to fresh conditions at every pace in the ascent or descent, and then probably lose his foothold at the top and break his back. There is one way in which the concave line drawn by your contributor could nearly be achieved; that is, by lengthening the flight considerably, and introducing landings with a slight incline from back to front, and each of a different measurement; but it could not be done in the length he shows in his drawing, even allowing the greatest possible height for the lowest riser shown, in calculating what that length is supposed to be. If the space was not great enough for this he should have suggested some other arrangement which should present no great difficulty. Garden steps are often necessary and can be used to add interesting and pleasing effects. Sometimes they are introduced where they are not wanted and in circumstances that do not warrant their use at all. Then they are neither interesting nor pleasing. Wherever they are used they should be so constructed that they form the easiest possible approach to the point they are intended to serve.—GEORGE DILLISTONE.

[Criticism, however severe, is always welcome, especially when constructive, and our correspondent's letter is interesting and may serve to clear up a possible misunderstanding. The arrangement of steps to which he calls attention was, in fact, not an "arrangement" at all, but a mere diagram and made no pretence of exactitude. As is usual with diagrams dealing with lengths and heights, it was not to scale. The concavity of the stairway was necessarily much exaggerated in the hope of making the point clear. Uniformity of height of riser is, as our correspondent points out, essential, and the customary method of making a stairway, using the word in its broadest sense, concave is to interpose landings of varying widths in the course of its length. Since most gardens which are appreciably unlevel in contour either rise or fall throughout their length, the garden will in many cases resolve itself, in fact, into one long stairway. One point in our correspondent's letter is obviously incorrect, but it is probably a "slip of the typewriter": "Every tread and every riser" should surely read "every tread *or* every riser." The contention that a gradually widening stairway will necessarily turn a step into a step and a half is one with which we cannot agree. Everyone progresses readily in a single step up a shallow stairway with 15in., 16in. or even 18in. treads, and even in the garden a 12in. tread is comfortably wide, so that we have here sufficient latitude to carry out the idea where it is desirable, in stairways of moderate length. In longer ones landings would in any case be desirable. A frequent and more real difficulty in broadening the treads as the stairway descends is one to which our correspondent does not refer. In formal stairways the coped and parapeted side walls are not, in such case, easy to treat. This is not an insuperable obstacle, but it *is* a real difficulty; and as a sufficiently approximating effect can, as Mr. Dillistone points out, be obtained by the judicious use of landings, it is not often taken in hand. Informal stairways are another matter, and these can readily be arranged with treads of varying width. The question of terracing and stairways is dealt with at greater length in another part of this issue, but we should like to express our entire agreement with the concluding paragraph in Mr. Dillistone's letter, and also wish to thank him for enabling us to remove any misconception which may have arisen.—ED.

DAMAGE BY SQUIRRELS.

IT would be interesting to know if any of your readers have suffered from damage caused by squirrels. They have caused great havoc here. Apricots, Plums—what few there are—Green Gages and Peaches have been taken from the trees before they were fit to gather, the fruit broken open and the kernel extracted. Pears have been eaten away down to the pips, which have been taken out and the remainder of the fruit thrown down. As the squirrels—three and sometimes four in number—have been in and around the gardens here for the past six years and no damage had been done by them until this year, one is anxious to know whether the drought has been the cause of their unfortunate change of habit and also whether others have suffered from similar depredations.—W. MASON, *Wisbech.*

THE JAPANESE WISTARIA RUNNING TO FOLIAGE.

I AM sending you a photograph of a Wistaria growing on a porch in our garden. The picture was taken seven years ago, and since then we have never had so good a show of blossom, as the tree has all run to leaves. Can any of your readers advise us how to increase the flowering of this Wistaria, whether by special pruning or feeding?—F. GUTHRIE.

WISTARIA MULTIJUGA ON A PORCH.

A GIANT STRAWBERRY.

I AM sending you a small drawing—life size—of a huge Strawberry I found growing on the bed some time ago, which I hope may interest your readers. This remarkable Strawberry weighed almost exactly 4 ozs. (two Strawberries, half a pound!), and it measured just about 9ins. round!—(Is this a record, I wonder?). The drawing represents the Strawberry exactly as I picked it from the plant. It seems curious it should have grown to this enormous size, as there were also several other large Strawberries on the same plant, and many smaller ones as well. This large berry was in perfect condition and had a very attractive, bright red colour. It remained "on view" for some days after it was gathered, perfectly sound and good. The variety is Mme. Kooi (a fairly new one, introduced from Holland, I believe). I have a good row of them, which I planted last autumn and they have all done exceedingly well and have had quantities of large

delicious, bright red fruits. They made fine, handsome looking plants, with large dark green leaves. Mme. Kooi is the kind to grow if you want fine big Strawberries!—SIDNEY M. HALLOWES.

[The drawing, which was unfortunately unsuitable for reproduction, showed the fruit to have been a crinkled monstrosity such as is not seldom met with among Strawberries and also Tomatoes. It probably represents the result of partial fasciation. The blossom from which this fruit was produced would be larger than usual and distorted in shape. The size and weight of this berry, even allowing for its unusual character, are certainly exceptional.—ED.]

HARDY PRIMULAS IN CULTIVATION.

I SEE that a Mr. Dalrymple, writing in THE GARDEN (page 371), asks for the parentage of my Primula Mabula. It was from a pulverulenta sikkimensis cross. Pulverulenta was the seed parent and the flowers were not bagged or protected in any way; but as there was no other Primula anywhere in the neighbourhood, I have no reason to doubt its authenticity, though I am bound to say Mr. Bowles does.—J. A. CHRISTIE.

[Our correspondent does not say whether he has found P. Mabula fertile or no. This is an important point, the answer to which would go far to clear up its parentage.—ED.]

CEANOTHUS GLOIRE DE VERSAILLES.

REFERRING to the note on page 423, Ceanothus Gloire de Versailles grows here in the Italian garden near the North Sea. It is sheltered by timber from sea breezes and does not get early morning or evening sun. I grew it on the Plain of York in sandy soil. It got every wind that blew except that from due east, and all the frost that came. I left it in full growth after nine years. I always pruned it just as it broke in spring. It always bloomed freely and it did not get leggy.—ROSLOTH, *Scarborough.*

KALE FROM CUTTINGS.

I WAS pleased to find the article on the subject of Kale from cuttings. I quite agree that the practice is not so well known as it should be. Those of us in this neighbourhood who have the management of large gardens find this Kale one of the best to grow, as it never fails us. I placed three dozen cuttings in a box of fairly sandy soil, and within a month they had all rooted and were ready to plant in the open ground. They are now a sight well worth seeing, each plant being 2ft. 6ins. high and about 2ft. through and loaded with shoots. It should be mentioned that owing to the drought vegetables of other kinds are short and we were glad to fall back upon this hardy Kale. Three good boilings have been gathered already. This is, of course, very early. When it has a few frosts on it it will eat tender and sweet. Those who have not tried this Kale should certainly do so, it is so simple to cultivate. The cuttings should be inserted in a box in or about the month of June, and shaded with a piece of glass smeared on the underside with whitening, which should be left on for about a week and then removed, leaving the box in the open. The soil should be kept moist.—G. T., *Hatch End.*

AN AMATEUR ABROAD.

"T. A. L.'s" Wahlenbergia-like Campanula (page 408) is most likely C. patula, one of the glories of some alpine meadows and banks. The second species may be C. Rapunculus. They sometimes grow together.—E. A. B.

IN August 13 issue (page 406) "An Amateur Abroad" mentions a bird which he took to be the three-toed woodpecker. His description evidently points to the nutcracker (Nucifraga), though the white bar is at the end of the tail, not the middle. The three-toed woodpecker, which I have seen in Lapland, is very distinctly pied, black and white, and has a yellow patch on the head. The nutcracker is a rare visitor to this country. It is a bird not too familiar to ornithologists, but it is well known as feeding on pine seeds, which it was doubtless eating when observed by "T. A. L."—CHARLES E. PEARSON, M.B.O.U.

THE BUTTERFLY PLANT.

THE article in your issue of July 9 on Schizanthus is my reason for writing. I am enclosing a photograph of one of eight specimen plants which I exhibited at the Royal Caledonian Horticultural Society's Show in Edinburgh and which were awarded a gold medal. The plant is 6ft. in circumference, 3ft. in height, and the flowers almost 2ins. in diameter. Its interest lies in that

A FINE SCHIZANTHUS.

it was raised from seed sown in August, as described in the article.—JAMES A. SWORD.

A BROKEN RESOLUTION.

ALL gardeners at some time or other have made up their minds to "scrap" Geraniums, but they generally end by deciding that they are all but indispensable. For many years my use of Geraniums has been dwindling, until early this year I decided that the time had come for the final farewell. Weakening somewhat, I did not throw away my small stock, but planted them out in an out of the way spot. They revenged themselves by flowering gloriously, and on August 1, somewhat shamefacedly, I took them and filled in the spaces in the borders where plants more cherished had failed to stand up to the abnormal conditions. Perhaps a bad resolution is better broken than kept!—G. B., *Loughton.*

THE VERNAL SNOWFLAKE.

I FOR one agree with "Croydonia" that a snowflake is dainty and delightful. I would go farther and say that I think it is one of the most beautiful things in this world, where, "as God has made it, all is beauty." Not snow and slush, but a snowflake newly caught or as it is falling. I am sure you could never have seen one magnified or read Mr. Francis Thompson's poem, "On a Snowflake," which is as dainty and delightful as its subject. I enclose a copy of this poem, and I feel sure, after you have read it, you will not connect so exquisite a thing with misery and goloshes in the future. Not far from Reading, at Loddon Bridge, masses of the Spring Snowflake are to be found growing in a wild state. Their local name is Loddon Lilies. I have seen them in other places near the Thames.—VICTORIA SLADE.

[A snowflake is certainly, on examination, a thing of beauty, though not more beautiful than, say, frost on the window-pane or hoar frost on the Hazel. None the less, owing to its unfortunate associations, a sordid-minded person like the Editor—it is to be feared there are many more like him—much prefers Mr. Thompson's wholly delightful poem to the reality.—ED.]

VEGETABLE MARROWS.

THESE have done extremely well this year, producing large spreading plants with abundance of fruit. Throughout the drought they have received no water, but the plant manages to collect for itself a surprising amount of moisture. We invariably cut the fruit when they are about 6ins. long and quite young and tender; indeed, we do not consider them worth eating in any other state. They should be cooked whole, and the skin and seeds should on no account be removed, or the appearance and flavour is spoiled. We grow several sorts, but the long, green-skinned variety is perhaps the best. By removing the fruit at this early stage a much larger crop is produced. At the same time the Marrow is proved to be an excellent vegetable instead of an uninteresting one. Vegetable Marrows are served in this young and tender state in Italy, where they are known as Zucchini, but in England most people seem to leave them to grow too large, partly, of course, because after the skin has hardened less care is needed in packing for market; but this is no reason for allowing the Marrows to become overgrown in a private garden. Large Marrows are only useful for making into jam, which well repays the trouble if a good recipe is followed.—R. B.

CLARKIA ELEGANS AS A CUT FLOWER.

CLARKIA ELEGANS has for a good many years been popular as a pot plant for the decoration of the conservatory in spring, but I am doubtful if its merits as a cut flower have been widely appreciated. Its long stems, graceful habit and beautiful flowers, interspersed with just the right proportion of bronzy green foliage and flower-buds, produce a most pleasing effect. Not the least of its merits is its keeping quality. Two vases of Scarlet Queen in front of me have been there for ten days and are still quite fresh; Fire King and Salmon Queen are also very attractive. All three are double flowered.—CALEDONIA.

THE CULTURE OF RASPBERRIES.

NOTICING correspondence in recent issues regarding the above, I think it may be of interest to tell of the method used at my old home in the Midlands, many years ago. No doubt other growers do the same, but I have never come across an instance. My father did not favour the usual plan of planting the canes in clumps or singly, for various reasons, one being that some harm was done in the flowering and fruiting periods by children and others brushing against the canes. Doubtless, women wore fuller skirts in those days—and most assuredly longer! The canes were planted in rows and trained to three or more wires attached to straining-posts at each end of the rows. The top growth was not cut off at any stage, but when it had passed the highest wire, and was of suitable length, the top of the

e was carefully bent downwards and tied to t wire. I recollect it was claimed that our spberry harvest was heavier and more prolonged this method. Another obvious advantage was ease of cultivation, and dealing with sucker wth between the rows.—W. G. C. France, *Ison, New Zealand.*

THE "SHOO FLY" PLANT.

BOUGHT a packet of seed under this name from an American firm some years ago (before e war). The plant was guaranteed to clear the ace of flies, and as there is a regular plague flies in this neighbourhood every autumn, I ought it might be useful. The plant is an nual growing about 18ins. high, with a pale ac flower. I have since identified it by means a coloured plate in Mrs. Loudon's "Ladies' ower Garden" as Nicandra physaloides. It ws itself and a few stray plants come up every ar in the garden, but, unfortunately, it does t "shoo" flies. I have more than once seen a sunning itself on the flower in a perfectly arless manner! I wonder if there are any ounds whatever for the American name?—B.

ANNE AMATEUR ABROAD IN SUSSEX.

MADE a pious pilgrimage to Hove Cemetery the other day to replant my mother's grave r the autumn. This was barely completed hen there came that sudden torrential downpour hich deferred Queen Alexandra's departure om London. Being in a closed car I, myself, garded it as a special "shower of blessing" to ttle my plants in. Thence we proceeded along he sea front at Hove, where the lawns are regain- ng their green hue. They were burnt quite brown or months, a resident on the front told me. Our ext stop was at Messrs. Allwood's at Wivelsfield, here I longed to spend hours but could only pare minutes. Here our party was very kindly eceived and we were shown many varieties of eautiful Pinks. Dear Little Black-eyed Susan dorned the edge of a border. She reminded me trongly of the old fashioned Anne Boleyn without he split calyx fault of the latter. What I par- icularly wanted to see was the hardy Perpetual Border Carnation. The one I admired most was Rosalind. This had yellow ground picoteed and encilled with red. Its large, full and perfectly ormed flowers are, as Mr. Allwood says in his atalogue, "gloriously fragrant." This is the nly yellow Carnation I have ever met with which ossesses the charm of perfume, lacking which I do not value or covet a Carnation of any colour for my own garden. Highland Lassie is a very beautiful flower, finely formed. Its white ground is very daintily pink picoteed. It possesses a slight fragrance, but cannot rival Rosalind in this. Sussex Pink is a pretty bright flower, but not distinguished for its perfume. There is a deep crimson like the old London Clove, but smaller and trimmer, possessing to the full the old delicious Clove scent. One named Brilliant I should call *dowdy*. One named Ruby is more truly of Garnet hue. Another is a light pale purple. I have forgotten if it had as yet a name. If asked to name it I should call it a Fragrant Frump or a Delicious Dowdy. Sussex Scarlet is a brilliant and showy blossom. What fascinated me most of all were the trial beds of hardy border seedlings. Here I could have spent happy hours admiring and comparing all the beautiful blossoms, most of which I was informed were doomed to be destroyed as not coming up to that high standard of perfection which is the aim of Messrs. Allwood. I longed to steal the lot of them.—Anne Amateur.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Sowing Grass Seeds.—Where it is undesirable to have bare portions of ground showing at this season of the year it is better to defer seed sowing until April, as this enables the preparation of the ground to be proceeded with during winter months. Failing any such objection, September is really an excellent time for sowing, and where the seeding down is for tennis or croquet courts it has the advantage of being fit for use considerably earlier than from spring seeding. In the preparation of the ground see that it is thoroughly well dug and cleaned and that at least 3ins. or 4ins. of good soil forms the top layer. It is advisable to send particulars of the soil, position and what the lawn is wanted for to the seedsmen when ordering, and buy only the best seed, as it will prove wasted labour to sow a cheap and inferior strain.

The Kitchen Garden.

Cauliflowers.—Good heads of Cauliflowers are always appreciated in the dining-room, and never more so than during the spring months. To obtain these in the best condition and at an early date seeds should be sown now, and again at the end of the month. The first sowing should be outside on a sheltered border, and the second one in a cold frame. When the seedlings are large enough some should be pricked out into frames where protection can be given from frost and some potted up into 4in. pots, afterwards placing them in a shallow brick pit, for preference, where an abundance of air can be given, but all heavy rains warded off. The chief enemies during winter are dampness and fog. Where space permits, the most forward and promising of the plants should, early in the year, be potted on into 8in. or 9in. pots or planted in prepared beds in pits. Cauliflowers delight in a fairly rich and free-rooting medium, and well repay any additional attention in its preparation. Failing frame room of any sort for the pricking out of the seedlings they should be put in prepared beds close to a south wall or building where, during very severe spells of frost, some protection can be given, and also heavy rains warded off.

Early Celery will require attention as it becomes fit for earthing up. The plants, if dry, should be well watered the day previously, and when carrying out the work care should be taken to see that no soil is allowed to get into the hearts of the plants. It is advisable where paper collars are not used to loosely tie the head of each plant with a strand of raffia as this enables the worker to see how to carry out the placing of the soil round each plant in a proper manner.

Hardy Fruit Garden.

Mulberries have ripened much earlier this season and where required for bottling or jam should be looked over almost daily owing to the persistent attention of the birds this season in their quest for moisture and nourishment of some sort. The Mulberry is not a good keeping fruit, so must be used a few days after it has been gathered.

Plants Under Glass.

Perpetual Carnations.—Where these have been growing in pits or frames they should now be brought into their winter quarters. See that the houses first of all receive a thorough cleansing in every way and should shading have been applied to the outside of the house for the convenience of summer occupants it should be removed. It is most essential that an abundance of air be given for the first few weeks after housing the plants. Where autumn propagating is practised the cuttings should be got in now. They will strike readily in a close, cool frame if inserted in a bed of sand, or sand and sifted leaf-soil, and kept uniformly moist.

Clarkias are ideal annuals for pot culture and some seed sown now will furnish good flowering plants next April, and a second sowing a fortnight later will carry on until June. It is an important point to remember that cool treatment is at all times best, and that the plant's worst enemies are dampness and coddling. Sow the seed thinly in pans or boxes of light soil in a frame and when strong enough prick out singly or in threes in 3in. pots. The single plants will flourish in 5in., 6in. or 7in. pots, and the threes grown on together undisturbed will furnish 8in. or 9in. pots. The plants should be pinched about twice to induce them to make good bushes, the first pinching taking place when the plants are about 6ins. high, and the second being determined by subsequent growth and aim of the cultivator. Firefly, Double Salmon and Elegans mixed can be thoroughly recommended.

Nerines.—These greenhouse bulbous plants make their growth and throw up their flower-spikes from about September until May. Some will now be throwing up and should be given a little water, gradually increasing as foliage and spikes develop. Nerines resent frequent potting but appreciate an occasional top-dressing of good fibrous loam, leaf-soil and a small portion of well decayed, dried cow-manure. The most popular is probably Nerine sarniensis (the Guernsey Lily), but quite one of the most useful is N. Fothergillii major. The best way of increase is by removing offsets before growth recommences, or seed may be saved and sown as soon as ripe.

Roses.—Where Niphetos, Maréchal Niel or Fortune's Yellow are growing in permanent quarters in the conservatory the pruning necessary should be done at once, if not already seen to. Remove all weak and exhausted branches and see that the wood retained is not too crowded. Niphetos is a rampant grower in some soils and will stand severe pruning. Where young, well-ripened wood can be laid in of Niphetos and Fortune's Yellow some excellent flowers will be forthcoming from the strongest eyes next spring. Maréchal Niel does well if pruned on lines somewhat like Ramblers. After flowering remove exhausted wood and retain at full length a sufficient quantity of strong and well placed new shoots and do not allow the side laterals too much liberty; then in early September spur all lateral growths to one or two eyes according to strength. Give every encouragement from now on, and some good blooms may be safely expected.

H. Turner
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Cabbage.—Where an early sowing was made for autumn planting the seedlings will now be ready to transfer to their final quarters. These will be followed later by a batch to form the main crop. We find it anything but satisfactory to have a large quantity too far advanced, as these do not stand the winter so well and are generally the first to run to seed. Plant fairly close, as most varieties for this purpose are fairly dwarf and compact.

Onions are showing signs of ripening much earlier this season, so should now be lifted and thoroughly dried in the sun before storing away in an airy loft or shed. Exercise care in lifting and do not bruise the bulbs; any bulbs showing signs of damage should be put aside and used first; bulbs with thick necks should also be used before the better-keeping sorts.

Globe Artichokes.—These have been bearing many heads this season so will benefit much by a good supply of manure water. Remove any spent stems or withered foliage and so encourage further flowering.

Lettuce.—Prick out quantities of these into frames for late autumn and winter use. The small, quickly maturing Cabbage variety is best suited for this purpose.

Plants Under Glass.

Schizanthus.—A sowing of these charming annuals should be made now. Sow in pans and place in a cold frame. After pricking out keep growing as cool as possible and thus obtain nice stocky plants for potting on early in the year. Never allow the young plants to become pot-bound.

Begonia Gloire de Lorraine.—Keep a moist atmosphere by damping the staging and paths where these are growing; also continue to pick off the flower buds as they appear, as the plants will not be wanted in flower much before November. Water frequently with soot water so that strong, healthy growths and dark green foliage may be obtained.

Primula obconica.—These at present are plunged half the depth of the pot in ashes in the cold frame and are growing freely, the coolness of the plunge evidently suiting them admirably. As the pots fill with roots an occasional dose of weak liquid manure water will be of much assistance in building up strong, well developed plants before the time comes round for transferring

to the greenhouse. Keep all flower spikes pinched out until later in the season.

Primula sinensis enjoys similar treatment to the above, only added care must be taken when watering, as they are more readily affected by excessive damp.

Calla Lilies.—Growers differ much regarding the summer treatment of these handsome plants, but whether they have been severely dried off or planted out and allowed to grow at will they will now require attention in the way of potting up again. Use a rich compost of turfy loam, working in a percentage of dried cow-manure and coarse sand. Stand for a time in a deep, cool frame, syringing occasionally to encourage root action and healthy growth.

The Flower Garden.

Narcissi.—Quantities of these that may have been lifted and dried with a view to autumn planting in the woodland should now be got in without further delay. Choose the driest parts and plant in bold, irregular groups.

Violets.—Keep the runners picked from the plants and give frequent waterings of liquid manure. While, should red spider appear give an occasional syringe in the evenings with a suitable insecticide until this pest is checked. Use a syringe with flexible nozzle so that the underneath of the leaves gets the full benefit of the spray.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

A Cool Greenhouse Plant That is "Never Out of Flower."—Amazing as the statement "never out of flower" may appear, it is literally true of the dainty little Corydalis thalictrifolia. One hears queries enough for plants of easy culture that flower freely in winter and this is prepared to answer the most exacting demands that can be made upon it. Once it has formed sufficient roots to begin flowering it goes on week after week and month after month through the remainder of its life either until it is worn out or becomes so large that division has to be resorted to. Give it a sound compost of turfy loam to which a little old manure has been added, press the soil firm without making hard, and grow in an unheated frame through the summer months. Quite a small piece should be placed at the centre of a 5in. pot and sufficient water only given to keep the soil evenly moist. Though they appreciate cool, moist conditions, too much water is a mistake, especially in the greenhouse, when air cannot be admitted so freely and may lead to decay of a considerable number of the lower leaves. House the plants towards the end of September and feed occasionally with weak liquid manure through the winter. As soon as a plant begins to show signs of wearing out turn it out of its pot, divide into small pieces, and repot, and very soon you will have a fresh batch of plants recommence flowering and carry on again for several months. This division can be carried out at any period of the year and by regularly dividing a few plants there need not be a day when you cannot pick a supply of the "never out of flower" Corydalis. In appearance the plants have finely divided Fern-like leaves of pale green and loosely formed spikes of golden flowers that are extremely useful for table decoration in small vases. The plants are of neat habit—unless grown too far from the glass—and do not exceed 15ins. in height.

The Ostrich Feather Hyacinth.—This name conveys a very fair impression of the appearance of a flower that is not a flower at all. This may sound somewhat of a paradox, but though the broad, finely coloured head has all the accepted appearance of a flower, it is in fact completely devoid of the reproductive system that constitutes a true flowering plant. The inflorescence consists of a mass of fine twisting tendrils, pale violet in colour, in a large broad head that remains fresh for a long time. It looks especially well in the rock garden, where a good group can be planted and left alone for a number of years and runs much less risk of being lost than when grown in the mixed border. The bulbs are not particular as to soil and will thrive in a stiffish clay as well as a lighter staple. Plant early in autumn, 4ins. apart and 3ins. deep. Muscari plumosum also makes a splendid pot plant for the cool greenhouse, five bulbs to a 6in. pot with a compost of fibrous loam. Keep in a cold frame until after Christmas, so that they are very thoroughly rooted, and force slowly.

A Shrubby Cinquefoil (Potentilla Friedrichseni).—This is of hybrid origin, Messrs. Spath, who first disseminated it in 1897, giving the parents as P. fruticosa and P. davurica. In habit the hybrid is more vigorous than either parent, being 5 ft. to 6 ft. high; while P. fruticosa seldom exceeds 4 ft. high, and P. davurica is less than half this height. It flowers throughout the summer, and even in September is quite an attractive bush. The flowers are pale or sulphur-yellow, varying a little in the shade of colour. The variety leucantha has white flowers. The subject of this note and other shrubby Cinquefoils are useful in the borders, flowering when the majority of shrubs are over. They thrive in most garden soils which are well cultivated. Cuttings made of half-ripe wood root under a bell-glass in the greenhouse or frame in late summer. It is also a simple matter to lay down one or two growths, layering the ends of the branches. Two comparatively new varieties of the shrubby Cinquefoil P. fruticosa from China will be widely cultivated when their value becomes fully known. Veitchii has pure white flowers, and Vilmoriniana silvery grey foliage and creamy white flowers.

Brick Walls or Fern Walls. Which?—As a query it sounds ridiculous, does it not? Yet how often one sees just a plain and ordinary brick wall at the back of a lean-to greenhouse or surrounding a water tank that could easily be clothed with filmy masses of cool soft green foliage—elegant in its dainty tracery, restful to the eye and a thing of beauty all the year. Left alone Nature will soon attend to the matter and clothe our crude raw material, first, with an elementary coating of greenish mosses, following up with tiny prothalli and later with wee Ferns here and there that gradually extend until the whole of the surface is covered by a mass of delicate fronds. But too often Nature is not left alone, and directly the first signs of vegetation appear on the wall some idiot comes along with a pail of limewhite and a brush and converts the wall into a glaring monstrosity from which a lover of beauty recoils. Of course, in purely utilitarian buildings, such as vineries, the need for scrupulous cleanliness and freedom from insect pests necessitates such measures; but there are many other places where no earthly reason exists why the cool moist wall should not be converted into a verdant Fern wall clothed from floor to roof with arching fronds. A smooth surface affords the worst possible chance to produce the desired change, and we must do our best to provide a series of pockets—well drained, so that the soil does not become sodden lumps. Conceal your handiwork as much as possible. Clinkers and burrs are extremely useful material—in the background—but do not drag these essentials of life into the public view. The Ferns, once planted and growing, in partnership with Selaginellas, Helxines, etc., aid us nobly in hiding our handiwork; but at the same time, while the work proceeds, keep in the forefront of your mind the fact that the less constructional work there is to be seen the better will be the effect. The temperature of the house in winter will decide the kinds of Ferns to be grown. One may, if it is a cold house, use entirely hardy varieties with very beautiful effect indeed. The point is to choose those needing similar conditions, so that all may thrive happily together. Where a higher temperature is maintained, the addition of some bold and outstanding foliage is to be commended, especially such choice things as the Platyceriums (which, by the way, do especially well on Fern walls), Rex Begonias, etc. Generous supplies of water must be given, and these are best supplied by a short length of hose pipe—with a very fine rose—attached to a standpipe in the house. Use this so that the water falls in a natural manner like rain, taking especial care thoroughly to soak the plants and wall at the top. It is here that the moisture is most needed, for it is nearer the glass and roof ventilators and all the water put there must drain down to the bottom, so that the lower half at any rate is sure to be sufficiently moistened. This watering is best done late in the afternoon so as to leave the atmosphere thoroughly moisture-charged through the night, so that the fronds may drink up the welcome drops during the cool period of the day.

Two Little Kniphofias for the Rock Garden.—If you have very strict notions as to what constitutes an alpine, you will not, of course, plant Kniphofias in your rock garden, but if you merely care for beautiful flowers placed in an ideal setting, there is no reason to hesitate about including K. Nelsoni and K. rufa. These are both very dwarf growers of brilliant colouring, with the characteristic dark green graceful foliage that form particularly telling splotches of colour through August and September—a time when many rock gardens exhibit a lamentable lack of distinctive flowers. Both of these will give them to you and neither is the least like the other. K. Nelsoni is exceptionally free in flowering, the blooms being bright coral red tinged with orange. It is a native of the Orange River Colony and soon forms good-sized patches, so that, when planting, space enough should be allowed for spreading. K. rufa is most suited to really small rock gardens, as it is even dwarfer than Nelsoni and bears dainty little spikes of golden yellow flowers tipped with orange. Both should be afforded a sunny, sheltered position in a deep pocket filled with fibrous loam. Do not plant them too high up on the slope as, although they appreciate dry and warm conditions through the winter, they demand abundance of water during dry times from May to October. After flowering is completed and before the colder weather comes, it is a good plan to tie the foliage together at the top in the same way as clumps of Pampas Grass are done, as this prevents rain from lodging in the crown.

A Pretty Creeper, and a Timely Warning.—Quite distinct from other members of its family, Mimulus primuloides is a very charming creeping species from North America, notable for the length of time during which it flowers. The plants attain a height of about 4ins., with small vivid yellow flowers on short stalks from June to August. Though perfectly hardy so far as cold is concerned, it is easily lost in winter if the soil where it is growing is disturbed. At that season the plant exists as small, leafless, separate stolons. A conspicuous label marking the spot, to serve as a reminder, obviates this risk. In spring each year, just after growth commences, is the time for replanting or increasing stock, as the roots then rapidly spread, and quite a small piece, owing to the creeping habit, soon forms a good patch.

FORTHCOMING EVENTS.

September 5.—Nottingham and Notts Chrysanthemum Society's Meeting.

September 6.—Royal Horticultural Society's Fortnightly Meeting, in conjunction with which will be held the National Dahlia Society's Annual Show. Royal Caledonian Horticultural Society's Meeting.

THE GARDEN

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NOTES OF THE WEEK

[September 10, 1921.

THE visit of the Prince of Wales to Dunrobin has focussed public attention on the historic territorial seat of the Duke of Sutherland. Some illustrations and a brief note on the beautiful grounds which will be found on another page should herefore be of especial interest. To those of ur readers who are unacquainted with the Highlands it may seem surprising that such a uxuriance of vegetation and so beautiful a setting re to be found on the north-eastern shores of cotland. The close proximity of the wide xpanse of the Atlantic, its waters warmed by he Gulf Stream, of course accounts for the relative nildness of climate for so high a latitude nd so cold an exposure.

On Increasing Stock.—Where it is lesired to increase stock of deciduous or evergreen trees and shrubs by means of cuttings, it is well now as quickly as possible to attend to their insertion. Of Conifers, the forms of Cupressus Lawsoniana root freely if cuttings are made of this season's wood with a small heel of ast year's attached and they are placed firmly in rather light, gritty soil in a cold frame, or, preferably, under lights carried on a light wooden framework. Such a box can readily be protected from severe frost, which would loosen the cuttings, by banking up the shallow sides with mould from an adjacent trench, and covering the glass with Archangel mats or straw, or bracken-covered hurdles. Cupressus nootkatensis varieties will root well similarly treated, as will all varieties of Thuya and the various forms of Cypress and Thuya usually called Retinospora. Cedars, though slow to root, will often succeed so treated, and many gardeners prefer varietal forms which cannot be obtained from seed, on their own roots. Pine, Spruce, Fir and Hemlock Spruce must be obtained from seed, or by grafting at the proper season. Of non-Coniferous evergreens, Holly, Laurel and Privet root readily so treated, but cuttings of Holly, if not already in, should be inserted at once. Privet and, at a push, Laurel may be planted in beds without the shelter of glass. Rhododendrons do not answer from cuttings, but they layer readily, and where this has been done, any thoroughly rooted layers should now be removed. If the sufficiency of their root is in doubt, they had better be left another season [illegible] Viburnums and slow rooting and should be kept away from those of plants which root readily and grow quickly. A great variety of deciduous flowering and foliage shrubs may readily be increased by this method. Some of the easiest are Ribes, all species and varieties, Philadelphus, Deutzia, Buddleia, Spiræa, Hydrangea, Cornus and Viburnum, while even the Maples, especially the forms of Acer Negundo, may be increased in this manner. Many kinds of dwarf Roses, especially the stronger growers, will root readily and grow vigorously from autumn cuttings, while all Rambler Roses root excellently and grow vigorously. Such trees, once established, have usually a longer life, especially on light soils, than have those grafted or budded even on the true briar stock. Rambler Roses, unless they be especially tender varieties, will usually succeed in prepared beds outdoors. As a very good "take" of these may confidently be expected, the cuttings, which should be very firmly and rather deeply planted, should not be too near together.

The Poet's Narcissus.—Large as is the number of fresh introductions each season to the family of Narcissi, the old Pheasant's Eye, as it is often, and happily, called, still maintains an undoubted and well deserved popularity. It is, perhaps, most pleasingly situated established in grass in a situation not too parched, and if partially shaded by trees so much the better. It will then produce flower stalks of almost incredible length and stoutness and blossoms of good size, great substance and with richly coloured cup. Equally beautiful where a cool, moist site is available is the double Poet's Narcissus, but it is useless to attempt its cultivation unless abundance of moisture can be assured. A long season of growth is very desirable both for the typical plant and the double variety, and no time should now be lost in procuring and planting bulbs where these are desired. It is generally known, but may be well to repeat, that neither the single nor the double form should be used for forcing.

THE FRAGRANT POET'S NARCISSUS WHICH, DESPITE NEW

The Storage of Roots.—The abnormal season has caused the prematurity of many crops, especially root crops, and steps should be taken to have these harvested as they become fit. It is useless in such a season to work by calendar. Careful inspection and personal judgment are the only real guides in the matter. That most important of garden root crops, the Potato, is to be seen in many gardens making fresh growth and flowers and, of course, supertuberating, or making entirely new tubers at the expense of the old ones. Where this has not already been done, the crop should now be lifted and stored at once or the quality, which is, fortunately, generally very good this season, will be greatly deteriorated. This may not apply to very late varieties or to [illegible] exceptional soils, but a very [illegible] inspection of the growing [illegible]

The GARDENS at DUNROBIN CASTLE, N.B.

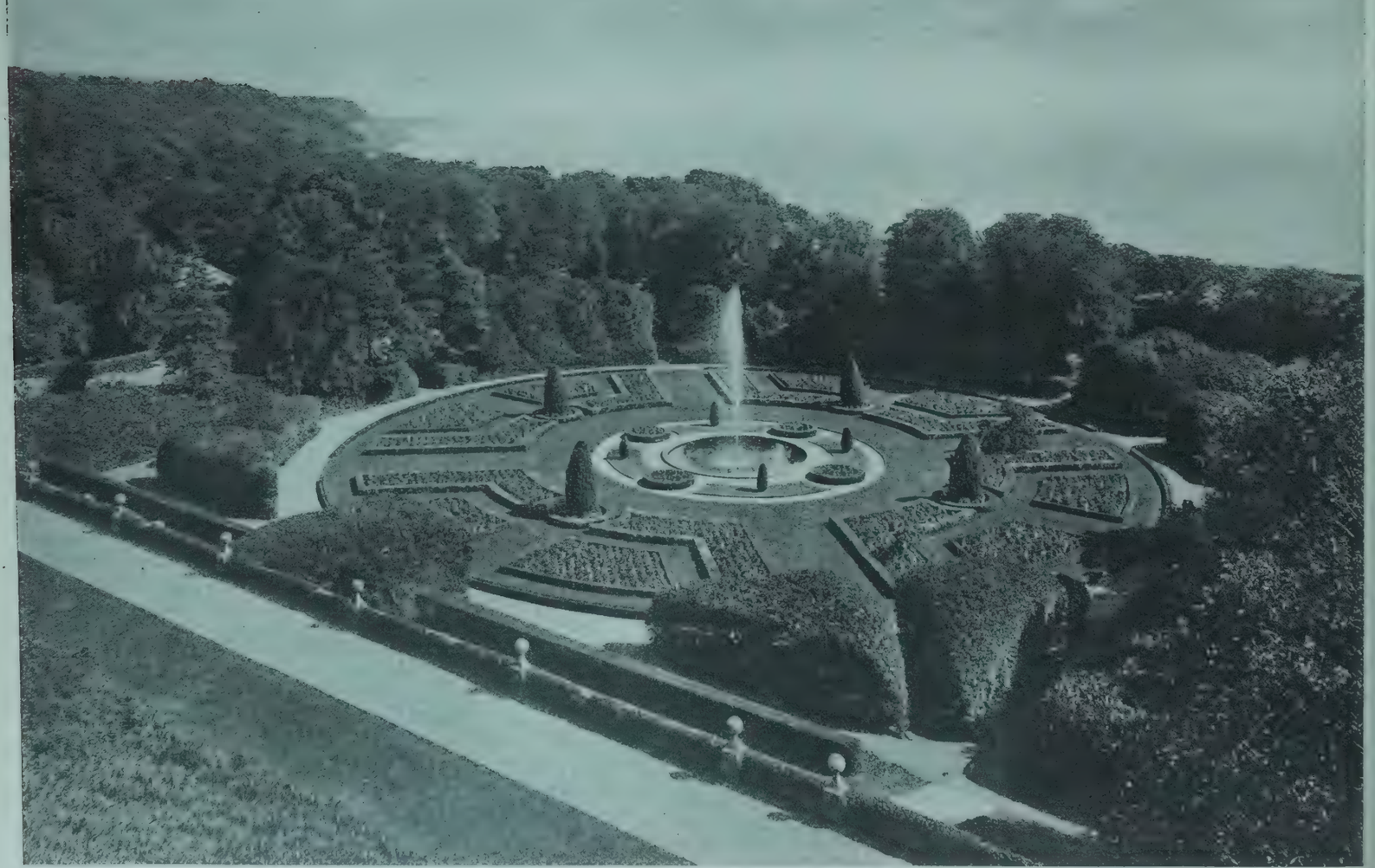
There are differences of opinion as to the artistic merit of the parterre, but "the vast majority will condemn no style of decoration, either in our homes or gardens, which harmonises with its surroundings and has in itself beauty of proportion and colouring."

SITUATED near the great high road which leads northwards to John o' Groats, Dunrobin Castle, the territorial residence of the Duke of Sutherland, is a familiar landmark to many visitors to the Scottish Highlands. Although the principal residence of a great Highland chief, and once, no doubt, a Highland stronghold, it is placed not in the mountains whose inhospitable grandeur is popularly associated with the Highlands, but on the strip of relatively level country which divides the mountains from the sea and along which the high road to Wick and John o' Groats runs. The country hereabouts is well wooded, and the Castle owes much of its charm to its situation.

To the northwards the land is level, and on this side lies the entrance front; but on the south the fall to the North Sea, here deeply indented to form Dornoch Firth, is almost precipitous, so that an excellent opportunity is afforded for terraced gardens, an opportunity of which advantage has been taken to the full. There are, in fact, three terraces. The uppermost is retained by walling so heavily and strongly built as to convey the idea of ramparts, an idea which is fostered by the wall of the house itself, which is hammer-dressed and battered for a distance of 12ft. above the terrace. The picture on this page conveys an idea of the view from the curved south-eastern angle.

The formal garden in its setting of informal planting, and with the restless sea for background, has, even in the picture, a dignity, not to say grandeur, worthy of the traditions of a great Highland clan, worthy of the great embattled pile to which it belongs. The picture cannot, of course, convey the colour which adds, especially in late summer, so much charm to the scene. It gives, moreover, but one glimpse of the extensive panorama from this upper terrace, of which the sheer, if creeper-clad, walling is seen in the picture on the next page. From this terrace three gardens are visible, each in its own setting and complete in itself, and each adorned with fountains. These gardens are divided one from another by very substantial intervening planting, quite informal in character.

There is nowadays much controversy as to the artistic merit or otherwise of the parterre. There will always be exceptional people to whom the style of gardening it exemplifies is anathema, and a few others whose taste as strongly inclines to this rich, if expensive, treatment. There are similar small minorities who can find nothing beautiful in Gothic architecture on the one hand or in Renaissance work on the other, but the vast majority will condemn no style of decoration, either in our homes or gardens, which harmonises with its surroundings and has in itself beauty of proportion and colouring. There are, admittedly, parterres—and some of them famous ones—which are ugly in themselves and inappropriate in their surroundings. There are others which represent the only treatment at once sufficiently formal and rich to adorn the front of the noble mansions to which they belong. The parterre is essentially a bygone style, since it is unlikely that private residences will ever again be constructed in Britain on a scale large enough to warrant their use. A great deal of the effectiveness of this form of treatment rests always in the commanding height of the terrace which overlooks it. Here at Dunrobin the unusual shape of the great front, with its wings falling back at an obtuse angle, makes possible a design as beautiful



s it is uncommon, so that there are, as already xplained, three separate parterres which, looking n the panorama from above, glow like the eye iarkings in the wings of the peacock butterfly, heir ordered form and rich shading enhancing nd bringing out the beauty in shape and colouring f the setting of which they are the distinguishing eatures. Many parterres are only worth seeing rom points of vantage on the terrace above. They too often look gross and unwieldy and ltogether uninteresting when seen from near at iand. The aim of all great artists in such matters s to get detail which, while making the gardens nteresting to those who traverse them, shall so blend as not to soften or obliterate the lines of he scheme as seen from the more distant viewpoints which have chiefly to be borne in mind. Nay, in many cases it is possible so to arrange his detail that from a distance it shall emphasise he lines of the picture. Again, it is comparatively easy to plot a design which shall have an effect sufficiently rich without being needlessly complicated, and also well proportioned in itself as seen from a distance. It is, however, quite another matter to design a garden which shall have good general proportions, as just explained, and also, bearing in mind the comparative narrowness of human vision, good local proportion, so that every vista in the garden itself shall be well proportioned and pleasing. In the picture on this page of the castle from the parterre and the one showing the same garden on the preceding page, note how different from altered standpoints beds, clipped shrubs, fountain and basin appear. Observe how the clipped Box which edges the beds, while not too high to conceal the plants within from the passer by, nevertheless gives a sense of ordered form.

When the garden is seen from the house or terraces these same Box edgings are yet tall enough, so that the sharpness of their form and the clear-cut shadows which they cast throw the plan of the beds into the desired relief. Note how, near at hand, the basin is large enough to give a restful

DUNROBIN FROM THE SOUTH-EAST.

and spacious effect and how, from above, it appears a small but perfectly proportioned centrepiece to the garden as a whole.

A fine avenue of trees leads from the private railway station to the entrance front of the castle, while another avenue leads from the great high road to which reference has already been made. Known as the Lady's Walk, a way, one of many, leads eastward to the private burial place of the family, used so far only for the interment of the father and brother of the present duke. This is a very beautiful and remarkable building, standing on high land close to the sea coast. It is embowered in trees on three sides, but on the south side the timber, lying as it does on the steep slope, does not break the seaward view.

Sheltered paths are formed in the grounds by the two lower terraces, and on this, the south side, there is a private pier at which visitors to the castle may land. From this pier the way to the castle leads through a beautiful wrought-iron gate, the gift of the first Duke of Westminster in 1894.

As always, in the Highlands, the gardens here are made to look their best for the opening of the grouse-shooting season, so that such plants as the pink form of the Purple Loosestrife, Lythrum roseum, which in England is used for the wild garden or as an occasional clump in the herbaceous border, is here used in serried rank and line for formal colour much as we might employ Geraniums or Petunias. Annuals, too, are freely employed, and some of them do remarkably well. That universal favourite, the Sweet Pea, is, of course, very successful in the cooler soils of our northern neighbour, so are Pansies and Violas. In the picture of a border in the kitchen garden the Sweet Peas are growing on a trellis of sheep-netting. In front of them a row of Gladiolus gives colour, the varieties being Halley, White Giant and Princeps, while white and blue Nemophila completes a very charming colour scheme.

As may be seen from the illustrations forest trees succeed well in the neighbourhood, and local timber has been freely employed for the decoration of the castle. The library is panelled in home-grown Sycamore, while native Oak is used for doors and door jambs, and Larch is also requisitioned for decorative purposes, notably the panelling in the duke's bedroom.

A painting by the duchess-countess of Sutherland, who died in 1839, having been countess seventy-three years, shows the south front of the castle standing at the crest of a rough and broken, albeit tree-covered, slope. The castle was not then, however, so extensive as at present, many additions having been made in the 'thirties and 'forties of last century, and the greater part, if not the whole, of the general design may be attributed to Harriet Duchess of Sutherland, wife of the second duke.

If the principal aim of the garden designer is to form gardens which shall be fitting for the [illegible] of which [illegible] in a very real sense, they are [illegible] part, the gardens at Dunrobin must be pronounced particularly successful.

A BORDER IN THE KITCHEN GARDEN.

Which? A Further Article on Bulb Orders

Bulb lists are like "the rule of three" in the way they puzzle people. This is an attempt to solve the puzzle as far as Daffodils, Hyacinths and a few other bulbs are concerned.

THE poets and I do not agree. After all, on thinking it over, they are more practical than I am. All the same, it has rather put my nose out of joint to find that it is seed catalogues and not bulb catalogues that bring them their inspiration. Why should "Tomfool" in the *Daily Herald* writing on "The World's Best Books," thus apotheosise them?

"But oh! when January flogs
The year awake, and earth is teeming,
Give me the seedmen's catalogues
To set imagination dreaming!"

Why, too, should Mildred Howells, in Mrs. Francis King's new book, "Pages from a Garden Note Book," paint her picture of the glorious garden in the air almost wholly from "the *Seedsman's* page"?

"What do I care if snows drift deep
And chill the north wind blows,
When in the sheltered room I keep,
A glorious garden grows?"

I am more disposed to agree with Anatole France's old bookworm who, thinking aloud, says: "I do not know any reading more easy, more fascinating, more delightful than that of a catalogue." For if there is a rival to a good fat bulb catalogue it is one of old second-hand books, more especially such as those issued from time to time by Quaritch, Dulau, or Wheldon and Wesley dealing mainly with horticulture. The high water-mark of those of a bulbous character is surely that of John Scheepers of New York, at least I have never seen or heard of anything like it, but, like all the rest, it is a puzzle to a great many people. Of course it is. No bulb list would be worth its salt if it was not. No one would think much of it if there was not a goodly choice of wares. The wish for a drastic reduction partakes largely of a pious sentiment as far as the catalogue is concerned, although there are individuals who would feel a certain inward satisfaction just for a year or possibly two, if it were so. Then, I think the wish to try something fresh would settle upon them, and once again, as at the beginning when the very first bulb order was made out, the question would arise, "Which?" The following lists may be of some help in deciding what to go in for. Descriptions are largely left out, as these may be found in the catalogues, and they take up space.

EMPEROR. A PROVED DAFFODIL REALLY SUITABLE FOR SPECIAL BEDS OR MIXED BORDERS.

Daffodils.—Twelve good and cheap varieties for beds or borders: Emperor, Empress, Barrii conspicuus, White Lady, Mme. de Graaff, Argent, Seagull, Sir Watkin, Horace, Lucifer (if the soil is light), Campernelle Jonquils (rugulosus variety) and J. B. M. Camm. Twelve very good and more expensive varieties: Norah Pearson, Blackwell, Whitewell (if the soil is light), Olympia, Cassandra, Pedestal, Lady Margaret Boscawen Sonata, Mrs. W. O. Wolseley, Bernardino, Golden King and Sunrise. Specially recommended for cutting: Frank Miles, Countess of Southesk, Fairy Queen and Will Scarlett. Good in pots: Firebrand, Queen of Spain, W. P. Milner, Golden Spur, Victoria, Princeps, Homer, Seagull and all the poetaz section, of which Elvira is the most widely known. For rockwork: Lobularis, minimus, cyclamineus (in partial shade), Dawn, W. P. Milner, triandrus albus and Campernelle Jonquils.

Hints on Cultivation.—The sooner all Daffodils are planted the better. Somewhere about November 15 to November 20 is the "last straw." After then there is a *marked* difference in results. The one exception about early planting is when the bulbs have to be grown from the start to the finish in a dwelling-house. It then is well not to pot them until the third week in October, otherwise the plants are sure to be more drawn up and weaker than they need be. In planting in pots the top of the bulb should be level with top of the soil. On no account should bulbs be pressed into the soil. Holes should be made for each one with a label or stick, but better still if the pot is not filled but the soil left at a lower level, according to the size of the bulbs, so that they may just be placed upon it and then the soil filled in round them. Never put either too many or too few bulbs in a pot. The golden mean is the ideal. In planting in grass never mix the varieties. The results are not pleasing.

Dutch Hyacinths.—If ever a flower deserved to have a national adjective appended to it it is the Dutch Hyacinth. The old picture books of the first half of the seventeenth century show us what the Hyacinth was like then and how different from what it is now. The florists of Holland have done the trick. The modern forms always remind me of the business end of the ancient pantaloon's poker in the old-time harlequinade. However, when all is said and done, no flower is more amenable to the confinement of a pot than the Dutch Hyacinth. It is the vegetable canary, and somehow looks more in place there than loose outside in beds and borders. The following are a reliable selection: L'innocence (white), Schotel (pale blue), Marie (darker blue), Menelik (a real dusky gentleman), Lady Derby (rosy pink) General de Wet (pale pink), Garibaldi (carmine), Oranje Boven (a reddish apricot, spike like that of a Roman Hyacinth), City of Haarlem (yellow), Perle Brillante (outside deep blue, inside pale blue), Johan (French grey), Distinction (small spike, real red-purple) and, to make up the baker's dozen, an old favourite, Kastanjebloem (double pink). For years I have advocated Cynthellas (or three year old Hyacinths). At last they have come into their own. I have sufficient fellow-feeling with the Dutch florists to realise what a depraved taste they consider it. It is undoing their work of generations. It is like insisting on drinking "'forty-seven" port with *hot* water, as an aunt of mine always used to do, to the horror of my father. She liked it in this way, and so I liked my Hyacinths in their Cynthella form. Prepared Hyacinths have been invented owing partly to the price of Roman Hyacinths and partly to the universal wish to have Hyacinths in bloom for a longer period. Only in houses where there is heat can they be had in flower at Christmas and the New Year, but, as I have proved, in cool houses they are worth a trial, as they are considerably earlier than those not "prepared." The best Cynthellas and prepared Hyacinths are advertised in dealers' lists.

Six Spanish Irises.—Flora, Cajanus, Royal Blue, Prince Henry, Rossini and Souvenir. Can anyone name a better half-dozen (whites barred)?

Six Dutch Irises.—Rembrandt, Hart Nibbrig, Albert Cuyp, Anton Mauve, Van Everdingen and J. Weissenbruch. Again there is a six without a white, but Voerman is such a splendid shape and so good-looking that I strongly advise a trial, although it is pure white.

Crocuses.—There are, roughly speaking, two types, the ordinary or Dutch Crocus and Crocus species. Among the first-named section I must say a word for Dorothea, lavender mauve; May, a shapely little white; Kathleen Parlov, with its prominent orange anthers and white petals; and purpurea grandiflora, the most impressive of all these Crocuses in a mass.

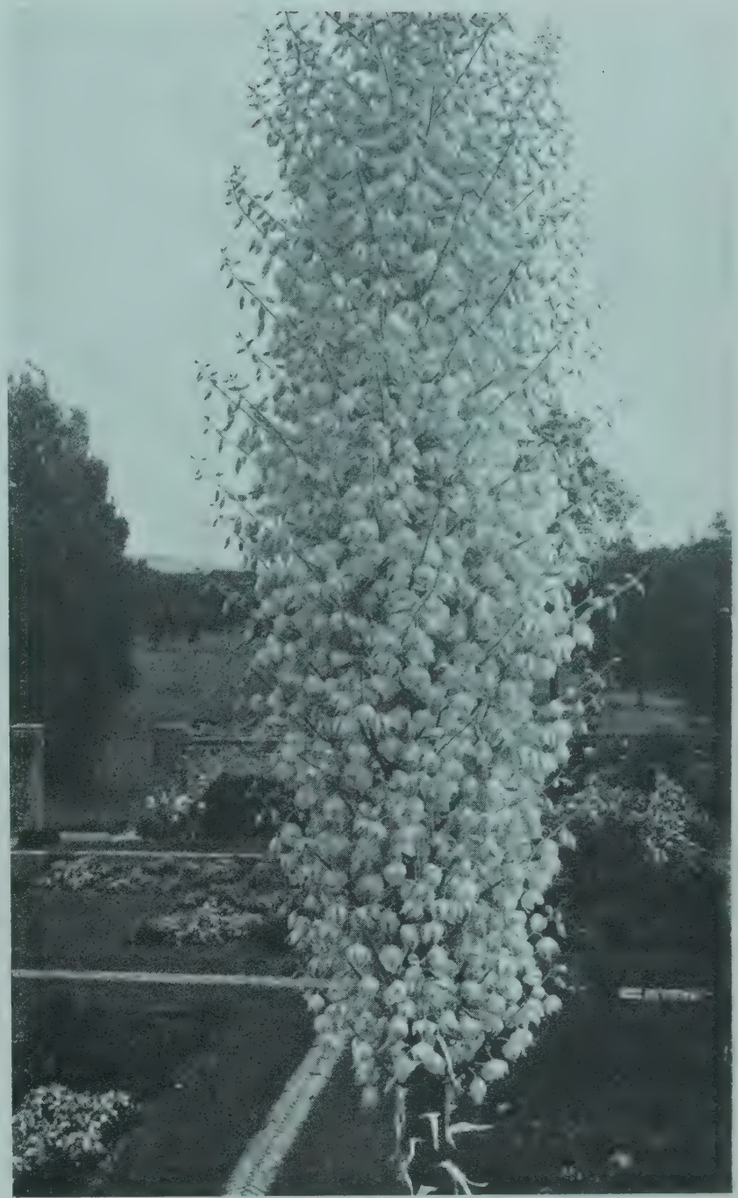
JOSEPH JACOB.

The Flowering of the Larger Yuccas

The subtropical grandeur of these plants always makes appeal. They flower somewhat rarely, but their foliage is always effective, and when in bloom their flower spikes are the most noteworthy objects in the garden.

THIS hot summer, following a mild winter, has suited Yuccas admirably, and I saw on August 9 in a South Devonshire garden a mass of Yucca gloriosa grouped on a grass bank that made as fine a display of that well known variety as I have ever seen. There were eight or ten healthy groups, each apparently originating from a single plant, but now each throwing up about half a dozen flowering stems, some in full bloom, some only just expanding their first flowers, and others, again, mere lusty shoots. The day was fine and still; the moment one when none of the bloomheads was overpast, none of the individual flowers bruised or broken by weather—the Yuccas were gloriosas indeed! But for individual splendour this was nothing to the show made by a specimen of the rare Yucca Whipplei that sang its swan song in Mr. William Christy's garden at Watergate, Sussex, last May, and as to which he has kindly supplied me with the following notes and accompanying illustrations.

YUCCA WHIPPLEI. THE MASSY SPIKE HAS JUST COMMENCED TO FLOWER.



THE INFLORESCENCE AT ITS BEST.

"It must have been about the year 1907 that I bought a plant of this Yucca from Smith of Guernsey on the advice of Mr. Bowles. It was planted near the edge of a retaining or terrace wall, and became rather big for its position, but had the advantage of a dry and sheltered place. The rosette of leaves grew slowly and for the last few years scarcely increased in size. It made no woody stem or trunk, the rosette of leaves sitting right on the ground like a big porcupine, and being a little over 3ft. high to the top of the spikey leaves and about 6ft. or 7ft. wide. The leaves are worth notice. They are exceedingly stiff and resilient, like swords, but narrow and as sharp as needles. They are very numerous, and it is certainly not a plant to fall up against or to take any liberties with.

"On April 25 last it was first noticed that a flower spike was poking out through the leaves like a great Asparagus head. This had reached a height of 8ft. by May 6, and on May 15 it was 11ft. high and the lowest of the flowers were beginning to expand. On May 20, when it was over 12ft. high and about half of the flower spike had opened its blooms, the photograph was taken which shows the whole plant, while that which gives the detail of the flowering spike was taken six days later, when the total height was 13½ft. and the inflorescence was 7ft. high and 2ft. wide. It was then at its best and the scent in the evening air was delicious. When June opened, the first expanded blooms were dropping, although there were still plenty of buds at the top and even at the ends of the lower branchlets. By the 18th of that month it had attained a height of over 14½ft., while the girth of the flower stem just above the leaves was 12ins. Half of the inflorescence had by that time shed its blossom and by June 26 the flowers were pretty well over, and one seed pod was observed. Many set but all except two have fallen off. These, on the last day of July are looking all right, and I hope they may ripen."

If they do ripen it will probably be the first occasion of this happening in Great Britain, where, indeed, few specimens have flowered, and where they have—as at Mr. Fletcher's garden at Bognor—the plant has thereupon died without producing side shoots, so that propagation has been impossible. Further information as to its flowering and still more as to its seeding will be very welcome.

H. AVRAY TIPPING.

FORTHCOMING EVENTS.

September 12.—Bath Gardeners' Debating Society's Meeting. United Horticultural Benefit and Provident Society's Committee Meeting.

September 14.—Royal Caledonian Horticultural Society's Show (two days). East Anglian Horticultural Society's Meeting.

September 19.—National Chrysanthemum Society's Floral Committee Meeting at the Royal Horticultural Society's Hall at 3.15 p.m.

September 20.—Royal Horticultural Society's Vegetable Show. Lecture at 5 p.m. by Mr. H. E. T. Hodsoll on "Artificial Manures."

September 22.—National Rose Society's Autumn Show to be held at the Royal Horticultural Society's Hall. W[illegible]

THE WINTER MOTHS

Preparations should now be made to destroy these moths, whose progeny are some of the worst enemies of the fruit-grower.

OF all caterpillar pests affecting fruit trees, probably the winter moth and its allies are the most injurious and widespread. The small green "looper" caterpillars which are often so abundant on Apple trees are generally those of the winter moth, but the March moth and mottled umber larvæ are also occasionally found. They are by no means restricted to fruit trees, however, and when other trees or hedges are in close proximity to the orchard this greatly adds to the difficulty of exterminating them.

The food plants of the three moths mentioned include Apple, Pear, Plum, Walnut, Hazel, Hornbeam, Elm, Oak, Birch, Blackthorn, Hawthorn, Lime, Sycamore, Privet and many more; in fact, the winter moth larva is such a general feeder that it would be difficult to name a tree on which it was not found.

The most remarkable feature of this family of moths is that the females are practically wingless, as will be seen from the illustration; the females of some possess mere rudiments of wings, which are, however, quite useless for flight. Probably their ancestors in the distant past all had wings, but the females, having little or no cause for flight, their wings gradually dwindled to their present size or disappeared altogether. The males, on the contrary, have to fly to seek their mates, and they all have ample wings, though their flight is weak.

The winter moth (Fig. a) is on the wing from October to the middle of January. The male is a thin, flimsy insect with pale brownish wings, and may frequently be seen flying round the street lamps on a winter's night. The female at first sight resembles a spider more than a moth, but on a closer examination minute wings can be seen. She is stouter than the male, and is a great adept at climbing.

The life-history of this moth is typical of those possessing wingless females, and so is given as an example. The moths have lain for several months in the pupa state in earthen cells below the surface of the ground. In October they break their bonds and come forth during the night. The females make for the tree trunks, to which they seem to be directed by nature in some mysterious way. They ascend to the branches, and if they reach their destination in safety, proceed to deposit their eggs on the twigs, placing them in crevices of the bark and around the buds. The eggs are very minute, but they can be easily seen with a lens. At first they are pale yellowish green in colour, but later become a "brick dust" red, and it is in this later stage that they are most conspicuous, for, although individually hardly visible to the naked eye, yet when present in large numbers they give quite a reddish tinge to the part of the shoot on which they are situated.

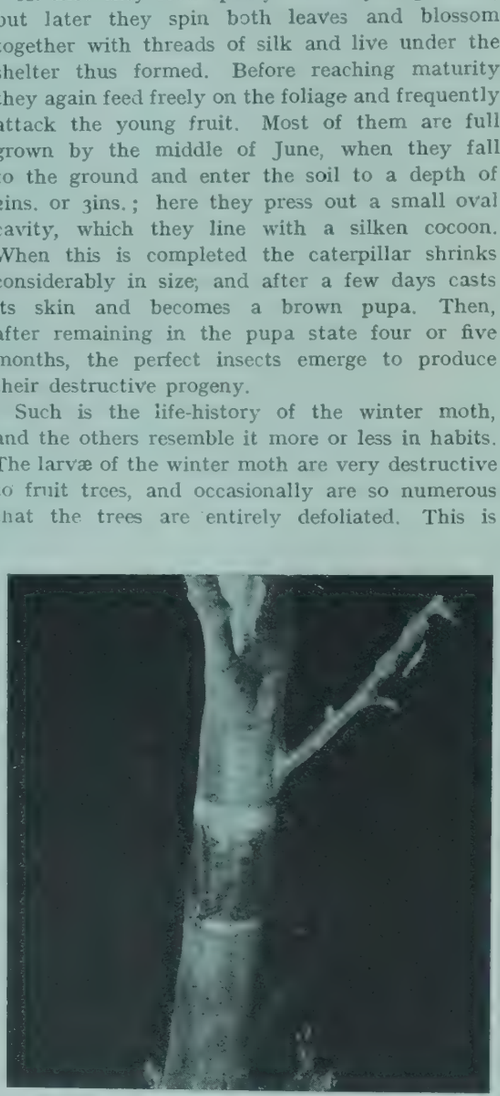
These eggs should be carefully searched for by all who possess Apple trees, but it is quite useless to think that winter spraying will destroy them. The shell is thick and unlikely to be affected by any caustic wash, unless it were strong enough to seriously injure the trees.

The young caterpillars hatch out just before the leaf-buds of the Apple burst, and commence to attack the young foliage as it opens. At first they are very minute and suspend themselves by threads, getting blown about in all directions by the strong winds of early spring. Many must certainly perish in this way, but multitudes survive. At this stage they are very dark in colour and extremely difficult to detect, but as they grow they become green, with pale lines along their bodies, some pale yellowish green, and others darker green with the pale lines more prominent.

The caterpillars of the winter moth and its allies can be distinguished from most of the others which attack fruit trees by the fact that they are "loopers," that is to say, they have no legs at all in the middle of their bodies, having three pairs of "claspers" *less* than other caterpillars, so instead of crawling along in the usual way they progress by means of a series of loops; hence the name of "loopers" or geometers.

At first they feed openly on the young leaves, but later they spin both leaves and blossom together with threads of silk and live under the shelter thus formed. Before reaching maturity they again feed freely on the foliage and frequently attack the young fruit. Most of them are full grown by the middle of June, when they fall to the ground and enter the soil to a depth of 2ins. or 3ins.; here they press out a small oval cavity, which they line with a silken cocoon. When this is completed the caterpillar shrinks considerably in size, and after a few days casts its skin and becomes a brown pupa. Then, after remaining in the pupa state four or five months, the perfect insects emerge to produce their destructive progeny.

Such is the life-history of the winter moth, and the others resemble it more or less in habits. The larvæ of the winter moth are very destructive to fruit trees, and occasionally are so numerous that the trees are entirely defoliated. This is



A PROPERLY APPLIED GREASE-BAND.

not to be wondered at when it is considered that the female lays over three hundred eggs; enough, if all the larvæ survived, to defoliate a tree. However, owing to the wingless condition of the females the gardener and fruit-grower has these insects under his control more than any other, and anyone who is prepared to take the necessary amount of trouble can prevent the attack of the winter moth, not entirely, but to a very great extent.

To reach the branches most of the females crawl up the trunk; therefore, by placing a band of grease or other sticky substance around the tree we can intercept their course. Bands of grease-proof paper must be tied round first, however, to prevent the grease injuring the bark. Great numbers of females may be caught in this way, but not all, for they have another method of ascending, namely, being carried up by the male. Thus some caterpillars are sure to be found, and so grease-banding in the autumn should always be followed by spraying with arsenate of lead in the early spring.

Two other moths are sometimes a nuisance to fruit-growers, but to nothing like the extent

A.—*The Winter Moth.*
B.—*The March Moth.*
C.—*The Mottled Umber Moth, male, and female (wingless).*

that the winter moth is; these are the March moth (Fig. B) and the mottled umber (Fig. C). The latter is really a fine insect, and a typical autumn leaf moth with a colouring of yellows and browns. The female is yellow with black spots and is entirely wingless. The eggs are considerably larger than those of the winter moth; they are pale yellow in colour, and are oval instead of round. The caterpillar is beautifully marked with brown and yellow, and feeds on the foliage of a great variety of trees.

The March moth, as its name implies, is more an insect of the early spring than of the winter, yet, although it is found in March and early April, it makes its first appearance in February. It is quite an insignificant moth compared with the last, the male having wings of a greyish colour. The chief peculiarity of the wingless female is the fan-like tuft of hair on the end of her body. These hairs are there for a particular purpose, for the eggs are not laid broadcast like those of the winter moth, but are placed neatly side by side in rows, often forming a band round the twig, being cemented together by a sticky substance and covered with hairs from the female's "tail" as a protection.

The caterpillars of the March moth hatch out in April and are green like those of the winter moth, but can be distinguished by having a narrow *dark* green line along the back edged with white. The winter moth larvæ are also fatter than those of the March moth, which are very slender and cylindrical. They are mature at the end of June and pupate in a similar way to the other species.

Having now outlined the life-histories of the three species of moths concerned, we will deal with the methods of preventing and checking their ravages.

Grease-banding has already been mentioned. The bands should be in position *before* the first week in October, and must be kept in a sticky condition until the end of January, or, if the March moth is known to be prevalent, until the second week in April. When the grease becomes dry, or gets largely covered with insects, it must be scraped off and renewed. Grease banding is successful if carried out thoroughly; but if the grease be allowed to get dry or is applied too late or left off too early, it is not successful, and all the money and trouble is expended in vain. Sticky preparations, of a similar nature to "fly gum," seem to be largely superseding grease for banding purposes, and no doubt these are more effectual, provided they do not harden on exposure.

However thoroughly banding is done, all the moths cannot be caught, for the reason already mentioned; and, therefore, it is always advisable to spray with arsenate of lead in the spring, say, at the end of March or early April. The time, of course, varies with the season, but should be just as the leaf-buds are opening. The young caterpillars are then destroyed as soon as they commence feeding.

The thing for fruit-growers to do now, however, is to procure banding materials and see that the bands are in position not later than the last week in September. RAY PALMER, F.E.S.

THE "TAMING" OF FRUIT TREES

The question of the desirability, or otherwise, of "ringing" fruit trees to make them productive is still a controversial one, though a modified form as applied to quite small branches is beginning to find wide favour. The following reasoned arguments by a convinced exponent of the principle should, therefore, repay careful study and experiment. Readers' experiences of this method of controlling rampant growth should be mutually helpful, and the matter might well be debated in our correspondence columns.

FROM time immemorial the tendency of fruit trees has been to produce growth in place of fruit when planted in a too congenial medium, when worked on the wrong stock or when fed too liberally, and many and various have been the methods employed to combat and check this tendency to produce growth at the expense of fruit; for, after all, we want our fruit trees, be they wall fruit, cordons, bushes or standards, to be law-abiding, fruitful trees, not guilty of running to wildness and excessive growth.

Long years ago when modern pruning was unknown and spraying unheard of, when nearly all the diseases and destructive agencies affecting fruit trees were so imperfectly understood that they were all lumped together as "Blight"—an elastic term that seemed to cover any possible evil influence in the garden—it was laid down, I think in "Thompson's Gardeners' Assistant," that 24ins. of new growth in one season was the maximum permitted, and anything beyond this was "wild" growth and needed repressive measures.

This dictum still holds good, for any tree making more than 24ins. growth of new shoots and unproductive *does* need "taming." It is in the methods to be employed in such taming that we differ from our old authority.

Root pruning has been the suggested cure for wild growth and unproductiveness for longer than I can remember, but root pruning, though useful in many cases, had most serious defects. If done properly it was a long process, putting the tree, if a large one, out of action for two or three years and entailing heavy labour and waste of time. A trench was dug half round the tree a short distance from the bole and well under its roots, which were then cut off and trimmed and the soil filled in again. The next year the same process was gone through with the other side of the tree. Good results were then looked for in future years, but not always realised, for the tap roots were not always cut and the flow of sap was in no way regulated. The treatment was often far too drastic.

The principle underlying the action of root pruning was quite correct, but its action was misunderstood. It was supposed that by cutting off a large supply of sap less growth and more fruit would result. Very often this proved to be the case, but it was not so much the interference with the supply of sap as the shock to the system of the tree itself that threw it into bearing. We know now that if a tree receive a violent check or shock to its system it will try by every means in its power to reproduce its kind by fruiting.

Our object then in "taming" fruit trees is to give them a shock which will upset the balance of their systems and to take advantage of their natural tendency to fly to productiveness, without in any way shortening the life of the tree or curtailing its future use.

In the old system of root pruning the operation itself had much against its adoption. If the tree were large the process upset many things growing near it, as a huge trench was often necessary to get at the deeper roots, and where the tree was growing near to or against a wall, it was absolutely impossible to get at all the roots without endangering the foundation of the wall.

When it became realised that a shock to the trees' system was followed by gratifying crops of fruit many odd devices were adopted, and it is to be feared that many poor trees were sacrificed on the altar of experiment. Finally, it is uncertain to whom the honour of the discovery was due; it became known that by cutting out a strip of bark about ⅜in. or ½in. wide right down to the wood of the stem and extending from one-half to two-thirds of the way round the stem of the tree at a height of a few inches to a foot from the surface (the smaller the tree the nearer the ground), a check to the flow of sap *and* a shock to the system of the tree were effected by one and the same operation and fruitfulness resulted in every case.

This treatment of wild and unproductive fruit trees was named "ringing." It has proved most satisfactory to the amateur as well as the commercial grower. The operation is easily performed, but it requires care and should never be hurried over or done in a slap-dash manner.

Fruit trees to be ringed next winter should be marked *now*. It can now be seen whether they are barren, and as growth for the year is finished one can estimate if growth has been excessive, for any tree with a poor or small crop and very strong growths is the better for ringing. Mark your trees now and ring them in the early spring just before the sap rises.

Use a sharp budding knife for the purpose, cut right down to the wood of the stem as far round as you decide, make another parallel cut ⅜in. lower or higher, square the ends and remove the section of bark, together with the inner bark, down to the bare wood. Have ready a little red lead mixed with oil and paint the cut with this to exclude the air and germs of nectria and the operation is finished. Ten minutes, against the half day which would be required to root prune the same tree. Note: Do not use ordinary paint, as if there is turpentine in the paint used it will kill the tree. Use only red lead and linseed oil.

The distance the cut extends round the stem of the tree depends on the state of the tree's "wildness." One never rings less than half the circumference. If the tree is simply getting out of hand ring it for two-thirds the way round; if it is very wild in its growth go three-quarters the way round. It is better to err on the right side, for if we find the tree is better, which we certainly shall, but not yet quite "tamed," we can, next spring, take out a bit more, until we have adjusted it to a nicety so that the tree grows steadily and fruits readily.

Be sure in cutting the strip you do not cut further round the tree than the slice of bark which you remove. Should you cut all the way round, the tree will die. Mark out your piece for removal with a red pencil and let your cuts extend no further in any direction than your marks. For the beginner it is better to cut too little the first year even though one has to cut again next year, than remove too much at first and then blame the system and not one's own error.

The cut, made and painted, will gradually heal up and in a few years will hardly be noticeable. If, during the healing process, the tree begins to revert to its wild habit, the cut should be reopened and kept open for a time, being repainted each pruning season.

If ringing were generally adopted and its objects well understood we should never see rampant growth of Plums, Peaches and Pears above the tops of garden walls as we do now. I travel about the country taking long cycle trips in connexion with my work and pass hundreds of walled-in gardens. When I see the wall top decorated with a shrubbery of Peach, Plum and Pear shoots a yard. long I say to myself: "That man has never heard of 'taming' fruit trees."

Some few years ago an individual who had heard of "ringing" trees but never seen it in practice, and was, perhaps, too conceited to ask, invented a process of his own and published a pamphlet on the subject. He placed little iron handcuffs on the stem and on the main branches of his trees, screwed up with thumbscrews! He was so proud of his trees in irons, poor man! A little knowledge proved a dangerous thing, however, for in a year or two all his trees contracted canker and were useless. The iron had abraided the bark and so let in disease.

The points to remember are, firstly, that ringing takes place on the main stem, below the lowest branch and as near the ground level as possible, in fact, just above the buttress of any visible roots; February or March are the best months, as the bark will then "run," that is, come away cleanly. Secondly, that the cut must be cleanly and quickly done and the air excluded as soon as possible. Finally, that only red lead and oil must be used for painting the cut, nearly all other pigments contain arsenic which is highly poisonous. Never use ordinary paint. If by any mischance or error the cut is made too far round and the tree appear stunted the following season, the gap may be bridged at grafting time with a bit of branch taken from the same tree, or by working in (grafting) a strip of bark into the cut

Let the beginner try ringing a few trees first of all, and as he grows expert he will be able to deal with any or all of his fruit trees which show a tendency to wild growth and require "taming." S. WARNER HAGEN

Gathering in the Fruit Harvest

"Do it with all your might" is sound advice in relation to fruit-gathering, provided that might is interpreted to mean intelligence and not merely physical strength. The correct time and the correct manner of removal must govern our actions in this task if complete success is to reward our efforts.

THE man who throws eggs taken from the nest into a basket is classed with the irrational human beings, but he who shakes the branches of a tree to remove its burden or scales a ladder and from the height makes shots with the fruits at a basket is allowed to pass muster with the rational people. Yet, just as certainly as eggs will break, Apples and Pears will bruise and the result is the same—waste, folly always, and an unforgivable sin in these days.

When is the correct time of harvesting and what is the correct manner of handling are questions of paramount importance in all gardens where fruits are grown, and the profits of culture are dependent upon accurate answers being found. Prematurely gathered Apples or Pears will not keep as long as those which hang to perfect ripeness, and an error in that direction leads, therefore, to some loss of profit; those whose skins are broken or bruised fail in duration of storage, and here again there is direct loss. The term "keeping" does not apply to early varieties which depreciate so rapidly in quality when gathered; they should be consumed quickly or, to use a popular phrase, "eaten off the tree."

First to the question of time. Briefly, it must be said that no time can be fixed for any variety on any tree in any garden. This may cause a sense of uneasiness to pass through the tyro who is searching diligently for information in the columns of THE GARDEN. The truth of the statement is, however, unquestionable. The entire crop on a tree never comes to ripeness—the correct time for gathering—at the same moment, not even the same day, sometimes not the same week, unless, alas! the crop (?) is limited to one fruit.

The harvester has a general guide in the approximate season of a particular variety; in other words, to which group—early, midseason or late—it belongs. To secure the value of this knowledge each tree must carry a name tally or have its name and position inscribed on an accurate, legible plan. He has, too, the mechanical test which, intelligently applied, is always reliable. The group season is known, and the worker grasping a fruit gently, yet firmly, lifts it upwards towards the spur. If it is ready for removal it will come sweetly into the hand without the exercise of an ounce of strength. This is the perfect state, and notwithstanding that it involves time, the test ought to be made with all the best varieties, and it rises to the status of a necessity with any fruits which have to go to store. There may, almost inevitably must, be occasions when all the fruits must be harvested at the same time and when, consequently, the individual mechanical test is impossible of application. The harvester must have recourse to something broader, more comprehensive. He takes about half a dozen fruits from widely different parts of the tree, cuts them, and, when he finds that the pips have passed through the greenish brown to the real brown hue, goes ahead with his task. Following this lead closely he cannot go far astray, since almost the whole of the crop will be ready.

In direct connection with the keeping properties of many Apples and Pears mention has been made of the importance of ripeness before gathering, but appearance which counts for so much always and for a great deal too much frequently, demands consideration too. The palates of some consumers are misplaced—they are located in the eyes, not in the mouth. The effect is that it is the coloured fruit alone that gains the superlative case: "It is the best." The judgment is often utterly wrong, but the grower must pander to it in degree. In numerous varieties the colour (independently of immense and widely varied soil influences) is not developed until we have the dewy nights and bright, sunny days of September, and of these conditions it is the duty of the grower to seize the utmost advantage, and this objective can be attained to only by permitting the fruits to hang as long as they will.

Now to the question of handling. The advice here can be tersely given, and it will go directly to the point. Grasp the fruits gently, yet withal securely. Nature's flesh must not be bruised any more than Nature's bloom must be blemished. Nature's skin broken. Proper consideration these simple points makes for perfection of appe ance and the longest period of sound keeping which the variety is capable. Those who des to spare themselves the trouble of careful handli or to save the time which it necessarily occup refer with the unction of triumph to the import fruits which reach us quite sound, though wi flattened sides and crowns. These, they ma attempt to argue, are bruised and yet they kee But the question arises: Are they bruised? T flattening is an effect of pressure steadi applied which compresses without breaking bruising the tissues. The conditions a essentially different, as a little thought w convince or a comparative examination prov Apart from that, however, none of the import Apples or Pears can compare with hom grown examples in perfection of quality—ou suffer by the very virtues for which they shou be studied and praised, not grossly handle and blamed.

GARDENS AND WATER

The successful gardener must be an optimist, a keen observer and a philosopher. The firs because the disappointments of such a season as this would kill a pessimist; the secon because the failures teach him so much; and the third because it enables him to accept th inevitable, with regret, perhaps, but without repining.

NO class of the community has been hit such hard, repeated blows by the prolonged spell of dry weather as gardeners. Whether their particular fancy was among flowers, fruits or vegetables, it has failed to realise expectations and, consequently, it has not sustained the reputation (often self-accorded) of its grower as an expert in this or in that among his friends. An ordinary drought causes a certain amount of perturbation, but it is not difficult to find means adequate to prevent complete failure, or even serious disappointment. The present period is not English—"it is not cricket." Week after week, month after month with no rain or not enough to be appreciable, resources were strained and finally broken—the plants had to take their chance.

Those who read as they run in their own or their friends' gardens will have learned one valuable lesson in every case, and a second one in many instances. The immense advantage of deeply cultivated, firm soil over that which is shallow, and perhaps loose, too, has been emphatically demonstrated. In the former the plants grew steadily and strongly for many weeks without extraneous aid; in the latter they ceased to advance much sooner, wilted badly and collapsed eventually.

The supplemental steps taken immediately that the soil approached total dryness took the form of a very heavy watering, pointing shortly afterwards, and finally a mulching of short manure, lawn clippings or fine, dry mould. Later, when dryness was again imminent, came the removal of the mulching, a second soaking, pointing over and the replacement of the mulch or a fresh supply. This process, continued as necessary, carried the crops to a finish. In the case of shallow ground the treatment ran on identical lines, but because of lack of depth for the roots and to hold moisture the drying-out was much quicker. The persistent application of water kept the soil so cold that the roots gradually perished, and following that came the death of the plants. The lesson learned is that very deep, firm soil does not dry out rapidly, whereas shallow, loose soil does do so.

Correct watering is, perhaps, the most difficult detail of gardening to master. The secret lies in giving applications only when they are required to maintain sufficient moisture in the ground fo the plants to feed. Considered judgment mus decide the duration of the intervals. In the cas of plants in pots the sides can be rapped sharply with the knuckles or a small mallet. If the not in response is clear, water is needed; but if it i dull, none must be given. After a little experienc this test may be accepted as infallible, provided that the drainage is in perfect condition. Out of doors this course of procedure is obviously impossible. The decision must be based on the appearance of the leaves or on a soil test at a depth of about 6ins., and the latter is the more reliable and, incidentally, the more trouble. Take out the soil to the depth of an average trowel; if it is dry at the bottom, give water; if damp, withhold it.

The quantity of water given at one time is of paramount importance as far as plants in the garden are concerned, but not so much so to those in pots, since the grower has substantial control here. The bulk of water used in gardens comes through mains in these days; it varies in quality (for plants) and it is generally exceedingly cold. As regards the quality, the gardener has no alternative to using it when a supply is imperative, and the result is usually satisfactory, though some plants may be checked for a brief season. The coldness is always prejudicial, and it will be to an innocuous or a dangerous degree according to circumstances. There must be an immutable law in garden watering. When the soil approaches dryness apply enough water to moisten it to a depth of nearly 3ft., and give no more until it approximates to total dryness again—the interval may be a week, a fortnight, a month, a year, its duration is of no importance. When main water is used the temperature of the best soil will be reduced by about 2°, which will be recovered almost during the day following an evening soaking, and unless there is something peculiarly objectionable in the quality, no harm can result. Suppose, however, that instead of the occasional soaking directed by intelligent judgment water is given from a main each evening. The original loss is put at 2°; the recovery the next day is not quite

complete and, consequently, the temperature will fall slowly lower until the soil is so cold that the plants cannot feed—they die from starvation. Such watering is a folly in which too many amateurs indulge and it cannot be deprecated too strongly. The point can be demonstrated in any garden by choosing two plants of the same kind growing under precisely the same conditions, but far enough apart to ensure that the treatment of the one cannot influence the other. Do not give water to one unless the soil is dry at a depth of 6ins.; give enough water to the other to soak in 2ins. each evening; the former will flourish and the latter will die in a fortnight, or three weeks at the most. Far different from regular soil watering, and always beneficial in hot weather, is evening syringing of the tops of the plants in which the quantity reaching the ground will be too small to affect the temperature either way.

In all circumstances it is necessary to assist in the conservation of soil moisture. The simplest means is incessant shallow hoeing or pricking over to encourage a surface layer of dust, perhaps 2ins. thick. The capillary tubes are then broken and there can be no waste, while there is the inestimable benefit that it is impossible for weeds—interlopers and robbers in a garden—to establish themselves. The second step to preservation is mulching with short manure or lawn clippings, and it is unquestionably the better; but all gardeners are not, unfortunately, in a position to adopt it owing to lack of suitable material.

There is one other aspect of soil watering which may be treated of before the subject is dismissed—it is in relation to beds specially prepared for seeds, including Cabbages, Onions, Spinach, Turnips and others, which must be sown when the ground is, even in normal seasons, hot and dry. It is impossible to get a perfectly dry soil down as fine and firm as it ought to be for this purpose, as, indeed, it must be if success is to be achieved. Therefore soak it heavily once or twice as required in advance of sowing and do not give any more water until the hour of necessity, which ought not to come before the seedlings are through the surface. Similarly, when seedlings have to be transplanted in dry weather the sites should be watered beforehand, as dry soil will draw moisture from the roots and cause the plants to wilt seriously and perhaps die. Except for limited areas where very small seeds are to be sown, all stones must not be removed, as they tend to keep the surface cool and moist.

W. H. Lodge.

CORRESPONDENCE

THE WHITE CAPE LILY OUTDOORS.

WHEN going round the gardens of the milder parts of the country and while noting the fine features made possible by the climate, there is usually one observation that may safely be made, viz., that full advantage of the mildness is far from utilised. With this in mind it appears well worth while to draw attention to Agapanthus umbellatus albus as now flowering on the Rock Walk at Torquay. The flowering is most profuse, and the masses continue, no doubt, from year to year. Agapanthus is all but hardy in many parts of the country, and where it can flower outdoors both the blue and the white are well worth the space they occupy. The white, with white Roses, I have just seen very effectively used for church decoration. Another plant now in flower on the Rock Walk is Plumbago capensis. It is, of course, very beautiful, and apparently it has grown in the same position for some considerable time.—R. Irwin Lynch, V.M.H.

AUBRIETIA WHITEWELL GEM.

I HAVE grown this to the exclusion of all other varieties for over twenty-five years. The original plant I spotted in an old Shropshire garden on account of its rich red toned purple flowers. We are all rather partial to our own belongings and are apt to see them through rose coloured glasses. This may be the reason why I think so highly of it and never want to change it for any of the many novelties that are staged at the shows—not even for Dr. Mules or Somebody's Purple. Perhaps there may be another reason. I have had it so long and it just does not come perfectly true from seed, but so near that the slight variations in shade give a sort of life to the masses which clothe from top to bottom the long retaining walls at Whitewell Rectory. This note would never have been written but for a casual remark made by an old friend who came on a visit last Bank Holiday. "Do you know, J. J., when I am hard at work in my office I often think of your garden; and it is not the masses of Tulips that I see, but it is always those purple walls of Aubrietia; they are always there." This was, if you like, an undesigned testimonial. Even the brilliant Tulips did not impress my visitor as did my old Aubrietia.—Joseph Jacob.

THE PLANTAIN LILIES.

IT is surprising how much in the later months of the year the water garden owes to the Japanese Plantain Lily, as in August and September the large family of Iris have passed

FUNKIA SIEBOLDIANA.

their flowering stage and show only the remaining grace of beautiful foliage. Funkia Sieboldiana, of which I enclose an illustration, commences to flower in June and blooms until August, the cool toned lilac-blue flowers being both striking and beautiful, and the foliage well formed. Later, there is the sweet-scented Funkia grandiflora, of which the flowers are pure white. On the whole the foliage of Funkia Sieboldiana is, perhaps, the finest, and it is not often that one finds a plant in which blossom and foliage are so well balanced. The silver and green of Funkia undulata argentea robusta and the blue-grey foliage of Funkia Fortunei are grown largely for the colouring of the leaves. The latter is late-flowering, the lilac flowers remaining until autumn tints commence to colour the foliage of other plants.—M. B.

PENTSTEMON CHESTER SCARLET.

TWO fine bits of colour brightened the gardens at Maer Hall, Staffordshire, in the middle of August. They were two crimson scarlet Pentstemons named Phryne and Chester Scarlet. Anyone seeing Phryne alone would be sure to say: "What a grand bit of colour that scarlet is! Has it a name?" It is a telling plant, growing about 2ft. high or perhaps a little more, with large, almost scarlet blooms with white throats. When, however, Chester Scarlet comes into competition with it, Phryne is "not in it." This little known variety is much more striking. It must be about the last word in bright crimson scarlet colouring. The flowers have no white throats, which probably is a factor in their brightness, just as the huge open self flower of Tulip Scarlet Mammoth helps to make that variety so extraordinarily vivid when seen in a mass. Again, Chester Scarlet has grown even this very dry and trying year anything from 2½ft. to 3ft. high. This naturally adds to its importance in the garden and, in addition, makes it a valuable plant for cutting for large vases. I saw several of these in the house and right well they look. Autumn propagation by cuttings, as is the case with other named varieties, is the way to increase it.—J.

THREE DESIRABLE NATIVE PLANTS.

FOR a good many years Potentilla alpestris and P. rupestris have never failed to do well here, irrespective of weather extremes and with practically no attention. The former has golden-yellow flowers about an inch across, borne at the ends of the semi-trailing stems, and these are produced in great abundance from May to July. This plant is evidently local rather than rare in a wild state with us, and we have forms from the Pyrenees and elsewhere which, though similar in other respects, have even larger flowers. Not a few botanists, including the late Mr. Farrer, consider P. alpestris to be no more than a superior P. verna. The other species, P. rupestris, is a native of distinction, found only, I believe, on a range of hills in Merionethshire. From a short, woody stem it sends up an annual crop of pinnate leaves above which soar, to a height of some 18ins., the graceful flowering stems. These bear in spring very charming, large pure white flowers with yellow centres, which at first glance remind one of those of the Grass of Parnassus. I have both of these plants on a very dry retaining wall, and, though the former would doubtless appreciate a cooler place, they must be numbered among the best of easy doers which take care of themselves. The delightful little native Horse-shoe Vetch might be more generally grown in rock gardens, since it is first rate for arid situations which are too dry for most things, and the thick mat of bright green foliage with which it will cover a shelving rock or face of a wall is a pleasing object at all times. In its wild state Hippocrepis comosa, as it is called—our only species—is generally found on the limestone, but it will prosper almost anywhere if given some old mortar, an open situation and a rocky roothold. About midsummer the flowers appear and these are a

deep golden yellow, the upper petal being delicately lined with brown. They are borne in Coronilla-like crowns and are not unlike those of the Lotus on a small scale; but the plant can easily be distinguished from this and others of its numerous genera by the pinnate leaves and the curiously formed seed pods, which are like a number of tiny horse-shoes attached to one another by their tips. The plant is easily raised from seed.—CAMBRENSIS.

MESEMBRYANTHEMUM PURPUREUM AS A POT PLANT.

MY eye was the other day attracted by a shimmering blaze of purple. Yes! I thought so. My old friend M. purpureum, one of the largest and most striking of all the wonderful Mesembryanthemums. There, in 5-inch pots on a full south window-sill with the sun blazing down, this grand plant was circling the windows of a second floor flat with such a maze of starry blooms that one's attention was irrisistibly drawn to the wealth of colour. Curiously enough, although I have known and grown the plant for many years, I have never used it in pots, but the sight of that window-sill was pregnant with suggestion, and next year—we shall see. Each bloom is as large as half-a-crown and of the most wonderful shining reddish-purple colour, while, in full sun, these are so profusely produced that they almost obscure the tubular fleshy green foliage. The present is an excellent time to increase the stock of young plants for next year's use. Any piece will root with the greatest ease if simply broken off the parent and stuck into the soil in the open border. Pot them up and store in a frost-proof greenhouse through the winter, and then in spring either pot off—as on the window of the flat that so arrested my attention—or plant out in the garden in wide clumps or as an edging. One thing, and one only, is absolutely essential, and that is sun. Unless they get this the flowering will be sparse. Let them roast and they will shout their exultation by expanding dozens of the gorgeous flowers from mid-June to the end of September and—try a few in pots for the window.—H. W. CANNING WRIGHT.

ON FREESIAS.

IN Mr. Jacob's article on page 416 I see he suggests potting the corms deep, just above the crocks. I find that seed forms its corm down at the lowest point it can reach, but I have not found any flowering corms, potted in the usual way, go as deep as this. I would not pot them deep either, for I think the main root wants a certain amount of depth of soil to run down into. I have tried growing Excelsior, thinking that, having gained an award of merit, it was a good thing, but I have had about 1 per cent. good blooms and put it down to bad cultivation on my part. I am wiser now. I agree with Mr. Jacob's remarks on raising from seed—easy to grow, quick results, and most interesting watching the various forms and colours. The cool treatment of Freesias is the most satisfactory—and cheapest.—G. H. DALRYMPLE.

A LITTLE KNOWN PERENNIAL PEA.

LATHYRUS TUBEROSUS is a charming little Pea so useful for covering the lower stems of Clematises, wall Roses and similar plants, for trailing over a rock, or as a border plant, where it will soon make a mound of its own, the fresh green being adorned all summer with an abundance of flowers. It is a lover of heat and does best here in a dry, sunny spot where the soil is very porous. Last year, being cold and wet, it never appeared at all, though we had a fine show in 1919; but, though given up for dead, it is now finer than ever, climbing up the lower stems of a Rosa sinica Anemone on a baking south-west wall. The blossoms are, individually, rather less than an inch across, borne in clusters of five to seven. They are a bright rose-pink without a suggestion of blue in the tint. A feature of these pretty flowers, not often observed, is their delicious fragrance, which closely resembles that of the Lemon Verbena. L. tuberosus is a true perennial, springing from a fleshy tuber about 2ins. long. It does not appear to be easy to establish in all soils, but once established, it will propagate itself by seed.—NORTH WALES.

VENUS'S LOOKING GLASS.

I THOUGHT, perhaps, it might interest your correspondent whose letter you publish in "Correspondence" of August 13 about Venus's Looking Glass, to hear that Messrs. Ryder of St. Albans have it in their list of seeds, as, he says, he has not met it in any seedsman's list.—B. SCARLE.

LILIES IN A READER'S GARDEN.

I DO not know if the enclosed photograph of Lilies would be of interest to your readers. It depicts L. testaceum and a variety of pardalinum, and in the forefront Humboldtii magnificum var. Bloomerianum. The tallest of the testaceums is about 6ft. high.—D. F. ALDERSON.

ANNUALS AND THE DRY SEASON.

DURING the past few years I have made Asters a feature of the late summer garden. These of every hue and variety, brought out by Messrs. Sutton and Sons, have figured in producing effects which have pleased me both in design and colour. This year—even with the record season—they have outdone any of their previous achievements, thereby proving that annuals with average treatment can withstand even the vagaries of an English summer. I venture to think the Persian Rug emulates any Eastern product bearing that name. I have a border which is composed of Sutton's Cineraria maritima Diamond, likewise the centre, with which is interspersed Sutton's Delphinium Queen of the Blues (grown and flowered as an annual). The groundwork consists of Sutton's Ostrich Plume Aster Old Rose. The effect I leave to the imagination.—EDITH M. WENN.

AN ANNUAL THAT DESERVES MORE CONSIDERATION.

IT is extraordinary how seldom one sees that pretty pink annual, Diascia Barberæ: in fact, I may say I never see it in any of the many gardens I visit during the year; and yet, for persistency of bloom, this half hardy South African plant is hard to beat. Some plants raised in 1919, wintered in a frame and planted out last spring have been in bloom here since May and are still a mass of flow (August 23). The seed can, of course, be so in warmth and planted out when hardened in the usual way. It flowers equally well sun or partial shade, and there is absolut no secret about growing it.—M. F., *Glos.*

WINTER GREENS: EARLY VERSU LATE PLANTING.

IT is generally conceded that among the Brassi it is better to err on the side of earliness the sowing and planting out of Brussels Sprou than almost any other winter green, from the fa that they require a longer period of growth reach table size, but I have usually made

THE NANKEEN LILY (L. TESTACEUM)

practice of sowing at the same time Savoys and various Kale, planting out these also early in April in ground set apart for the purpose. The results have always justified the adoption of an early start, but never more so than in the present season when the late planted out winter greens had to face the prolonged drought under tropical skies for weeks on end. Their inability to establish themselves in time rendered them an easy prey to the abnormally dry time, and in many private gardens breadths of them "went under," so that now in a good number of places there is a great shortage of green winter food. Winter greens that I planted out in April had the benefit of rain and "never looked back," but in the case of others

put out in June, which I have seen, those which have survived the ordeal are less than half the usual size.—CLAREMONT.

NEWER ROSES FOR THE GARDEN.

TO the very excellent selection given on page 430 I would like to add the following: Frau O. Singer, a charming silvery pink of exquisite shape, free in growth and flower. The second is Hortulanus Rudde, a brilliant dark red with massive petals; the blooms, which are decidedly fragrant, are freely produced on stiff stems. I look upon this as a very desirable Rose to add to any collection. —M.

CRINUM POWELLII AS A BORDER PLANT.

DURING the month of August a pleasing feature of the herbaceous borders at Castleford, Chepstow, was two fine clumps of Crinum Powellii and C. P. album. C. Powelli is a hybrid between P. Moorei and P. longifolium, and the flowers of the type are a reddish rose, while the variety album is the purest white. Although they have flowered annually since they were planted in 1914, the spikes are even more numerous this year, and the flowers of finer texture, a fact perhaps due to the hot, dry season. C. Powellii is a plant that should be more largely grown in the open border, for it is hardier than many people imagine, and the flowers are very acceptable at this season. In many districts deep planting is advisable, and the bulbs should be near flowering size before putting them in the border—at the end of May. They delight in a rich soil and will pay for a mulching of decayed manure annually. Our plants remain out throughout the year and have never had any protection. Where there is a risk of losing the bulbs during frosty weather a sheltered spot should be chosen, the soil well drained, and the necks of the plants covered with hay bands; or the bulbs may be lifted and stored until all danger of frosts is passed. The delightful Belladonna Lily, referred to in your issue of August 27, page 433, is flowering well here at the base of a wall supporting a cool greenhouse.—B.

TWO OBJECT LESSONS.

YOU rightly draw your readers' attention to the two instances of success under adverse weather conditions (page 427). Never have my herbaceous Phloxes been so successful or given so much pleasure as in the season now fast drawing to a close. I do not think the ordinary amateur, or even the professional gardener, realises the beauty and usefulness of a representative collection of Phloxes of the decussata section. Commencing to flower in June, they continue well into September, making gorgeous masses of colour. No matter how the varieties are mixed, the colours do not seem to clash unduly. In a season like that experienced this year the advantage of slight shade either from overhanging climbing Roses, fruit trees on the south side of a group, a wall on the eastern side of a border, or temporary shade provided, have all helped to minimise labour with watering, and aided in developing the panicles of blossom. The drought of this season taught valuable lessons in the growth of these flowers. Deep trenching, ample manuring, mulchings and not too much space between the plants are points to observe. In my case, to avoid the burning of the flowers in the orange shades, I hope to plant varieties of this colour by themselves in a site protected from midday sun by slightly overhanging trees on the south side. It is in the orange tinted varieties we get so many handsome flowers. The second object lesson is that relating to the Californian Tree Poppy, Romneya Coulteri. Is there any difference in the freedom of flower in plants grown from seed as compared to layers, or is it a question of culture? At one time I was successful with this plant growing at the foot of a south-east wall. This plant was the result of a layer. On the death of this plant, after some years of pleasure, I put in a seedling plant. This grew vigorously enough, but the flowers were so sparsely produced that I grubbed it up after several years' trial.—E. MOLYNEUX.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Spring Bedding Plants.—Use the hoe frequently among such plants as Wallflowers, Aubrietias, Polyanthus and Myosotis in their pricked-out quarters to encourage them in every way for autumn removal to their flowering quarters.

Pentstemons.—Cuttings may be taken any time now when available, and inserted 3ins. apart in light soil in cold frames. Keep the latter somewhat close until the cuttings are rooted, afterwards freely admitting air upon all favourable occasions. Some protection should be given during severe frosts, but during mild, wet spells see that some air circulates among the plants.

The Kitchen Garden.

Potatoes.—The maincrop and late varieties may be lifted as opportunity offers itself, as no further good will accrue through leaving the tubers any longer in the ground. Select a dry day for the work and allow the Potatoes to remain upon the ground to dry for a few hours before picking them up and storing. If time and labour permit the grading of the tubers can be seen to now, otherwise the work may be profitably carried out when climatic conditions are unfavourable for outside work. In view of possible scarcity of Potatoes this season only diseased and the quite small tubers should be discarded at this date, as I think it probable we shall have to make use of quite small tubers for seed purposes next spring.

French Beans in fruiting should be regularly picked and thus prolong to the utmost the fertility of the plants. Where a covering of some sort can be given on cold nights many good dishes may be gathered yet for some weeks. The plants growing in frames must be well ventilated and the roots kept uniformly moist. If possible the pits or frames should be heated a little to prevent the temperature falling too low. Should another sowing have to be made to meet requirements sow in 4in. pots and grow on quickly in a brisk temperature before planting them out, or transfer when nicely rooted into 8in. pots for fruiting.

Hardy Fruit Garden.

Strawberries.—The completion of planting has been unavoidably delayed owing to the backward condition of the layers, but an effort must be made to get it finished now so that the plants may become well rooted before winter. I have no faith whatever in any hard and fast rules laid down about distance to plant. The main item is to get a good crop of fruit, and profitable, according to acreage given up to them. In some districts Strawberries make much more leafage than in others, and this must be taken into account when planting, and this must always be firmly done. When all necessary supplies of runners have been obtained from the permanent bed clear away the remainder, hoeing and cleaning the plot thoroughly at the same time. After several weekly hoeings give the bed a dressing of old soot, and to the plants which have carried very heavy crops add a slight mulching of well-rotted manure.

Gathering Fruit from now onwards will call for considerable attention. The man or woman well versed in the business knows by experience when to gather, but to the inexperienced a fairly safe and general guide to follow is when a fruit gently lifted parts readily from its stalk. Peaches and Nectarines cannot be handled too carefully, and Pears, too, require much care or a considerable loss may soon be incurred. Varieties of Pears ripe or ripening now may include Williams, Dr. Jules Guyot, Fondante d'Automne, Marguerite Marillat and Beurré d'Amanlis. Ripe or ripening Apples of dessert kinds, Beauty of Bath, Devonshire Quarrenden, Lady Sudeley, Worcester Pearmain, St Everard, Washington and James Grieve; while culinary varieties may include Keswicks, Lord Suffield, Stirling Castle and Frogmore Prolific.

Plants Under Glass.

Violets to flower in frames during the winter and early spring may now be lifted from their summer quarters and replanted in frames. Should no recent rains have fallen the plants should be well watered the day previous to lifting to ensure them having a good ball of soil. The most suitable frames for the purpose are those with hot-water pipes, just flow and return, and with a position due south. Remove all runners before planting and should red spider be present spray or dip with suitable solution, taking care to thoroughly wet the underside of the leaves. Violets should have a fairly light and good compost into which has been thoroughly worked a little bone-meal, soot and wood-ash. Plant moderately firm and see that the crown of the plant is just level with the soil, and this should be so arranged that when the plants are in position the foliage is only from 9ins. to 12ins. from the glass, and about the latter distance from plant to plant will do. Should the weather be showery at planting time leave the lights off, but if hot and dry place them on and also a slight shade to enable the plants to recuperate quickly. Violets will not stand coddling, and an abundance of air must always be given when weather is favourable. A little heat circulating in the pipes is at all times helpful after the warm days are gone, especially so during damp, foggy ones, which are much greater enemies than frost.

Streptosolen Jamesoni and Plumbago capensis trained to pillars or on wires, &c., should receive the necessary pruning. The former has flowered exceptionally well at Albury this season against the side of the conservatory facing east. Both plants will stand somewhat severe pruning, and where space is limited the flowering shoots may be cut back to one or two eyes according to their strength. It is a good plan to cut away an old shoot occasionally and tie in a young, vigorous one in its place. In this way more vigorous root-action is maintained.

H. TURNER.
(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Carrots.—Early sowings of these will now be ready for lifting, and as there is always the danger of splitting among the roots, the work should no longer be delayed. Store in sand in a cool shed or cellar.

Turnip-rooted Beet should also be lifted now and stored in like manner.

Late Peas have done remarkably well this year, and little difficulty should be found in keeping up a good supply till well on in the season. Where there is a doubt of very late varieties swelling, these may be assisted by pinching the tops and so induce the pods to swell more rapidly. Where the ground is not over-rich, a good watering with liquid manure will also benefit.

Vegetable Marrows.—Cut off any surplus ripe fruits and store in a cellar or fruit room, as these will keep for some time. Thin out rank growth, and allow for the development of fruits that are left. We find the small fruiting varieties most suitable for kitchen use. The new variety Rotherside Orange has turned out well, being of nice size and excellent in quality. It has a distinct flavour and seems firmer in texture than most sorts.

Fruit Under Glass.

Late Hamburghs.—Much care is required in Vineries where late crops are finishing with regard to the ventilation of the houses and firing and in seeing that the border does not get dry. When colouring is finished, keep the house on the cool side, maintaining a drier atmosphere, more especially should the weather incline to be dull but should there be strong sunshine, and the

foliage sparse, a light shading will prevent the berries from losing colour.

Vine Borders which have been made on the system of adding to as the Vines progress should now receive attention, more particularly in the case of earlier houses that have been cleared of their crop. Before adding the new part, care must be taken to tease out the face of the existing portion so that the two may properly conjoin. Failure to do this often causes a crevice to appear, with subsequent damage to the young roots that have pushed into the new soil. Good fibrous loam is necessary for this and is best if lifted and stacked for a period before using.

Orchard House Trees.—Generally speaking, all orchard house trees that have finished fruiting should now be attended to if in need of repotting or top-dressing. If repotted now they will emit nice fibrous roots, and so recover from any check before winter comes on. See that all pots and tubs likely to be required are thoroughly cleaned and ready beforehand, while it is essential that a good compost of rich turfy loam should be used, giving a fair sprinkling of half-inch bones and bone meal. Pick out as much of the spent soil as possible from the ball with a pointed stick, loosening the fibrous roots carefully and cutting away any that may be damaged or decayed. Pot firmly, standing the trees afterwards in the open for a month or two.

Plants Under Glass.

Mignonette for Spring Flowering.—A few pots of Mignonette flowering in the conservatory during the spring months always give pleasure. Sow now in 4in. pots, using a light compost of loam, leaf-mould and sand, with a percentage of well rotted manure. Germinate in a cool place; afterwards transfer to a shelf near the glass in a cool greenhouse or pit. When the seedlings attain a reasonable size thin them out, leaving only four or five plants in each pot. Move into flowering pots early in the year.

Chrysanthemums require regular attention. All loose growths should be tied in now that the autumn storms are approaching. Should green fly show on the points of the shoots, spray with XL All Insecticide or Abol. Now that the pots are filled with roots, extra watering is essential, applying regular quantities of liquid and artificial manure, being careful that the soil in the pots is in a fairly moist condition when stimulants are given.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

Brompton Stocks for Cold Greenhouses.—In the need for economising in fuel more attention is now being given to Brompton Stocks for growing in cold greenhouses, and possibly the necessity for making the best of things is one of the reasons why the culture of these old-time biennials has revived. It is somewhat strange that in places where Wallflowers are made much of for spring display for beds and borders the Brompton Stock has not been popular of late, for few things are sweeter or last longer in bloom than the Bromptons. As is well known, the culture of both is practically identical, and their freedom of blooming, if potted up in the autumn in 7in. or 8in. pots, is only excelled by the richness of their perfume, a few plants being quite sufficient to fill a house with delightful fragrance.

The Tiny Narcissus Bulbocodium.—This and its varieties are some of the choicest little early blooming bulbous flowers for the rock garden. Often, as was the case this year, they expand their first blooms by mid-February. Give a rather sheltered spot not raised much above the ground level. They love plenty of moisture, but not too much brilliant sunshine. Half shade is best, while no injury is done by a carpeting plant such as mossy Saxifrages or similar things which do not root deeply. A pocket filled with a mixture of fibrous loam and a little peat is suitable, taking care in dry springs to supply them with water or the flowers will go blind. They can also be grown in shallow seed pans in a cold house and are most beautiful so treated, but in that case only the largest bulbs should be used. The bulbs sold are usually wild ones collected and only the strongest are capable of producing flowers the first year. Once planted in the open, on no account interfere with them. They must become thoroughly established to do well. The variety N. Bulbocodium monophyllum, being a native of Africa, requires rather different treatment to the others and outdoors must have a place at the foot of wall in a hot, dry situation. Give water fre however, as soon as growth is apparent. It succe well in pots in frames. Almost pure sand sho be used as compost; keep this barely moist u the green appears, after which a free supply moisture should be provided.

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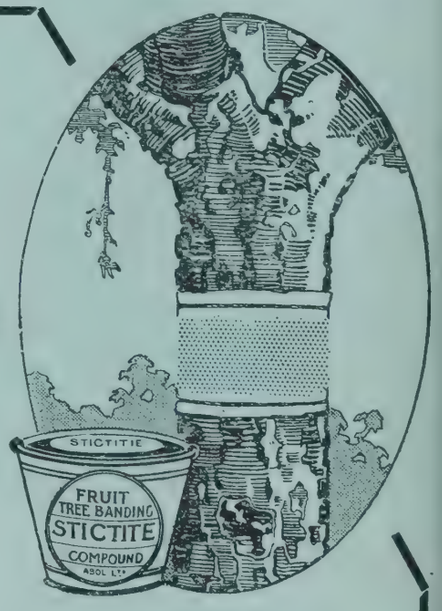

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THE GARDEN

No. 2600.—Vol. LXXXV.] [September 17, 1921.

NOTES OF THE WEEK

OUR readers will learn with regret that as the serious illness which necessitated the cancellation of Mr. Arthur W. Sutton's business and public engagements at the end of 1919 gives, as yet, no promise of material improvement, he has relinquished his connexion with the famous seed house in which he was the senior partner. His interest in the business as partner dates back forty-five years, and he had been senior partner since the death of his brother, Mr. Martin J. Sutton, in 1913. Mr. Sutton is one of the best known figures in horticultural circles, and his many friends and admirers, while regretting that his retirement should have been thought necessary, will hope that his health may improve more rapidly than at present seems likely and that he may be able to gather up the threads of, at any rate, some of his manifold activities. Mr. Sutton is a Justice of the Peace, a Fellow of the Linnæan Society, and since 1897 one of the select band of Victorian Medallists of Honour.

The Old Order Changeth.—New ideas and the necessity in these times for specialisation have had much to do with the closing down, during the last two or three decades, of many grand old firms in the horticultural world. It is a matter for congratulation, therefore, that the long-established house of Sutton and Sons has, by its adaptability and the readiness with which it has adopted new ideas, so kept beneath the wings of the Spirit of the Times that it was never in a more flourishing condition than at present. Continuity of management is assured for, at any rate, some time to come. Mr. Arthur Sutton's brother, Mr. Leonard G. Sutton, now becomes senior partner. The other partners, who belong to a younger generation, are Messrs. Martin H. F. Sutton, E. P. Foquett Sutton and L. Noel Sutton.

The Squirrel Plague.—Our Correspondence columns this week bear further testimony to the unwonted depredations of these quaintly beautiful little animals. The scorching sunshine and consequent shortage of moisture are suggested as accounting, in all probability, for their new-found and somewhat startling partiality to soft and fleshy fruits. This may be so; but we should like to have the views of some of our many naturalist readers. There are few of us too young to remember the sudden onslaught which a few years ago reputedly insectivorous birds, notably the starling and blackbird, made upon our Apples and Pears. These birds had always shown a—generally tolerated—liking for such juicy soft fruits as Strawberries, Raspberries, Red Currants and ripe Gooseberries, which fruits can readily be afforded, at any rate, a measure of protection, but their raids upon the fruit harvest we had fondly hoped to garner for winter supplies were quite another matter. In many parts of the country steps were therefore taken to decimate these birds, which, useful in moderate numbers, had become so numerous as to become a serious pest. Alas! it proved to be a case, to some extent, of padlocking the door when the steed was stolen, for the bad habit so easily acquired has become ingrained, and on the slightest provocation, or on none, these two species, even where most severely thinned, still ravage our orchards. The toll they take each season must in the aggregate be a really considerable and appreciable loss to the country. It is sincerely to be hoped that the new habits of the squirrels may not be equally permanent; otherwise one of the most picturesque and generally welcomed denizens of our woodlands is likely quickly to become extinct.

Autumnal Flowers.—The planting of the herbaceous border for early autumn effect is a problem not always easy of solution. Such summer flowers as Chrysanthemum maximum and Phlox decussata and many Heleniums and Rudbeckias are now past, while the great galaxy of Michaelmas Daisies and most of the early flowering Chrysanthemums are yet to come. Some of the dwarf and early border Chrysanthemums give interest, as do Aster acris and the varieties of A. bessarabicus, while the Monardas still give splashes of brighter colouring, and some of the Solidagos give a needed touch of gold. Nevertheless, to make borders at this season really effective recourse is almost general to plants not truly herbaceous, such as Gladioli and Dahlias. The latter especially may be used advantageously to cover up the vacant spaces left by earlier flowering plants. So, for that matter, may early flowering Chrysanthemums and Michaelmas Daisies. Our picture well illustrates the value of Dahlias and Gladioli in such a border.

AN EARLY AUTUMN BORDER.

Magnificent bulbs of Gladioli are grown on British bulb farms. There is no necessity to plant foreign corms.

On Environment.—There is a striking difference between the stern, rather cold, but truly beautiful Gothic castle, of which the grounds were described in our last issue, and the quaint and picturesque South Country Elizabethan mansion of which the gardens are reviewed on the following pages. Equally noteworthy is the contrast between the heavily terraced and handsomely laid-out gardens of the one and the flat and relatively intricate treatment of the other. Castle and mansion, however, are, each in its place, worthy of admiration because of their suitability to their surroundings. Their gardens are of equal interest because of their especial fitness in their respective situations. There is no reasonably well proportioned garden which will not provide hints for other gardens known and it is really astonishing how [illegible] may be adapted [illegible]

THE GARDENS at OLD PLACE, LINDFIELD

These Grounds are a Splendid Example of Modern Gardens in the Elizabethan Style.

OLD PLACE is a genuine Elizabethan country mansion greatly enlarged, in keeping with the existing structure, during the closing years of the nineteenth century by the late Mr. Charles E. Kemp, who also to a great extent remodelled the gardens. The house itself is a mine of interest. The beauty of the exterior as a whole is very imperfectly conveyed by the illustrations, so much of its charm resides in the warm mellow colouring so characteristic of fine old brickwork, combined with the grey of the shingled roof, softened as it is with green and yellow lichens. The interior is beautifully decorated throughout, but it is especially remarkable for the magnificent stained glass which adorns its casements.

With a house of such a character it is very necessary that the gardens should be in keeping. As before mentioned, Mr. Kemp very largely re-made the gardens, but these have been further improved and considerably extended by the present owner, Mr. W. E. Tower. The house is situated quite close to the high road at the top of the quaint and beautiful old Sussex village of Lindfield, and a by-road, which divides its ground from the God's acre of the old church, passes within 12 yards or 15 yards of the west front and what was, no doubt, the original entrance door. The treatment of the small court thus formed is quaintly charming and quite in keeping with the period. From wrought-iron gates giving entrance from this by-road a tiled path between Irish Yews leads to the door. There is a stretch of turf each side, borders filled at present with Antirrhinums, and then the rich green of clipped Yew hedges. The present courtyard to the north of the house is approached by a very short drive from the main road. Having entered the gates, almost immediately a lodge or cottage with picturesque gables and thatched roof bounds the drive on our left, and the house itself similarly defines the way on the right. Before reaching this handsome wrought-iron gates give entrance to the little western court, already described. These gates and the view on entering the drive are well shown in the accompanying illustration. Beyond the courtyard and its appurtenances a way leads eastwards to the parkland. To the left of this roadway lies the partly walled-in kitchen garden, and to the right access is given to a herbaceous walk leading from the east front to the boundary of the gardens on this side, flanked everywhere by Yew hedges and terminating in a seat. This has been a bad season for gardens everywhere, particularly bad for those on the brashy soils of the weald, but, doubtless as the result of unremitting attention and willing service, these gardens, at the time of our visit, while, as was inevitable, they showed evidence of the abnormal weather, were on the whole in wonderfully good condition. In the rather narrow herbaceous borders we are now considering there were some truly beautiful single Hollyhocks and annual Larkspurs, while on the southern side, on the Yew hedge with, of course, a north aspect, Tropæolum speciosum looked quite at home; a remarkable achievement this in the south of England in such a summer! In the little paved court at this end of the house were many fine plants of the Chimney Bellflower (Campanula pyramidalis).

Passing now to the south or garden front of the house, there is a vista through a typical old English formal garden arranged round the sundial seen in one of the illustrations. This ornament

THE MOUNT.

is entirely in keeping with the period, though to modern eyes its proportions are too large for the garden in which it is placed. This part of the gardens, at any rate, is quaint rather than spacious. This vista leads on, under an avenue formed of pleached Limes, up a turfed vista between Yew hedges quaintly clipped so as to give a buttressed effect to the quaint and charming garden house at its further end. Around the sundial are Irish Yews and Podocarpus, closely trimmed, and numbers of Hollyhocks. To the right of this turfed alley is a small garden which, in its general character, balances the larger one on the other side of the pleached Limes. To the left of the turfed alley already mentioned is a garden of no great size, but distinctive in character, with Bay trees planted in square brick enclosures 2ft. or more high and, perhaps, 5ft. square. These trees and their carriages are set in the centres of square flower-beds. Other beds of various shapes have no tubs. All are planted with annuals, and all are set in turf. The colour here is provided by annuals, and very beautiful at the time

THE ENTRANCE, NORTH-WEST CORNER.

of our visit were some good groups of many-coloured Salpiglossis.

The towering Hollyhocks which were so beautiful in these gardens were, we thought, in what shall be called, for sake of clearness, the sundial garden, too tall and numerous. They broke up the frontage of the beautiful mansion. This would, however, be but a temporary blemish, the remaining planting being of quite moderate height.

The avenue path of pleached Limes leads from fine wrought-iron gates on brick pillars which give access to the park to wooden gates which give on to the by-road just across which is the entrance to the churchyard. At the back of the garden-house, enclosed by hedges and fencing, runs a public footpath which formerly bounded the gardens on the south, but by means of a bridge, surmounted by a quaint embattled and pennanted Saracen tower, which spans this footpath, access is obtained to the wilderness which has been laid out on a scale larger than would have been possible in the purlieus of the house. From the annual garden a gravel path leads to this bridge and, passing it, to a raised mound planted with topiary such as was common in Tudor gardens. Though quite in keeping, the arrangement of the planting on the mount is distinctive.

On climbing to the level of the bridge a fine view is obtained of the house and formal gardens in the one direction and of the wilderness in the other. A straight mown turf vista runs from the bridge to the shrubbery which encloses this part of the gardens. This vista is defined and, to a degree, formalised by an avenue of Cupressus Lawsoniana erecta viridis. A number of sorts of Bamboo were to be seen in the wilderness, but the only clump in any way remarkable was one of Bambusa palmata, though Phyllostachys aurea was quite good. Of flowering shrubs there are here a great variety.

Noteworthy at the time of our visit were Rubus canadensis (brighter and more attractive than we have usually seen it), Olearia Haastii, Spiræa ariæfolia, and the Bladder Senna (Colutea arborescens) both in leaf and pod. A good clump of Telekia (Buphthalmum) speciosa against a dark background was very pleasing. This is a good plant for the wild garden. It has a great attraction for bees and butterflies, and is worthy of a place on that account alone.

The trees in the wilderness are as yet of no great size, but they are in considerable variety. A Tree of Heaven (Ailanthus glandulosa) with its sub-tropical looking foliage made a pleasing contrast to its neighbours of denser habit.

Returning to the "homeland," between the sundial garden and the roadway there is a strip of ground on a higher level planted mainly with kitchen garden crops and Raspberries. The path which traverses this strip is flanked on the one side by the hedge to the sundial garden and on the other by a bank, supported by large stones and planted with Ferns and a few Hollyhocks, or, perhaps, these last were self-sown. They, at any rate, looked particularly charming. The dark archway and darker hedge as a background, their splendid isolation—for the Ferns seemed too far below the line of vision to be considered neighbours—the self-confident poise so often seen in naturalised plants, all contributed to show them in a light in which these flowers are seldom seen. The picture is very inadequately reproduced on this page. Beneath the archway, which leads to the little western court referred to, are again seen the wrought-iron gates which divide this court from the entrance drive and courtyard. In addition to the wrought-iron gates, which are a feature of these gardens, a wrought-iron screen with hinged casements, which stands on two steps and at first sight appears like another and very beautiful gateway, gives outlook across the public footway already mentioned (though that is not appreciated as one looks) down a broad and gracious vista in the wilderness.

The pleached alley and straight, not over-broad, vista treatment so characteristic of Tudor and Elizabethan gardens is here shown at its best. The grouping of the several gardens is at once quaint and charming, and yet, despite the relative smallness and individuality of the main treatment, the unity of the whole is never lost. The connexion, too, of the old gardens with the newer wilderness is at once boldly and adequately contrived so that of gardens of this particular type these might well be taken as a model.

Although Old Place is situated on the high road at the point where, after a steep ascent from the south, it falls equally sharply in the direction of Horsted Keynes, the gardens are, with the exception of the artificially formed mount and the bridge, before referred to, remarkably level. There is a little fall on the east to the level of the park

THE SUNDIAL GARDEN AND SOUTH FRONT.

FERNS AND PROBABLY SELF-SOWN SULPHUR HOLLYHOCKS.

and the pleached alley slopes very gradually upwards from parkland to roadway, but, except for the artificial features mentioned, there are no steps anywhere in the garden. The house itself is, contrary to the opinion one might form from the glimpses shown in the illustrations, in its general effect low and spreading, and the effect is well accentuated by the unterraced lay-out of the grounds. The lack of interest which might have been anticipated from such a treatment is cleverly guarded against by such distinctive features as the sundial, wrought gates and screen and, more particularly, by the garden house—a delightful erection, harmonising entirely with the main fabric—the mount and the quaint and barbaric tower-surmounted bridge.

Elizabethan manor house architecture has many admirers, but it must be confessed that numbers of people—and with the present trend of taste, we might say *large* numbers of people—prefer a style less picturesque and at once simpler and more severe.

Even these, however, would not wish to lose the sense of continuity which such survivals of the style of a bygone era help to maintain; and no one, whatever his personal predilections, would wish the gardens to such a house to be treated in a different manner.

The old brickwork of the mansion and the shingled roof are so beautiful that too many climbers can only be a disfigurement, and the small-leaved Ampelopsis (A. Veitchii) which smothers at least two gables to the very chimney tops, needs drastic pruning if, indeed, this has not already been done.

Beautiful & Accommodating Cactaceous Plants—The Echinopsis

The quaintness of growth and beauty of blossom so typical of the Cacti endear them to many people, but it does not appear to be generally recognised that a number of them can satisfactorily be cultivated in an unheated structure.

THE note on Cacti in THE GARDEN for August 13 and the advice there given for cultivators to take advantage of this exceptionally fine summer for ripening purposes may serve to call attention to an interesting family of plants, one which deserves more consideration than it receives from the majority of garden lovers. Cacti are, in the majority of cases, very easy to grow, many of them have very beautiful flowers, and the plants are at all times attractive by reason of their often wonderful symmetry of form and the great variety in shape, colour and arrangement of their spines. Not only this, but, in addition, those who go more deeply into the subject and study their morphological and physiological characters will find cause for admiration and wonderment at the perfect way these plants are adapted for their life conditions in a state of nature, the necessity of enduring drought in burning sunshine for many months each year.

To those who may be inclined to experiment in the cultivation of Cacti the genus Echinopsis may be recommended as a suitable one to start with. The plants are shapely, they take up very little room, have beautiful flowers freely produced and are most easy to cultivate. Although the species presently to be mentioned are natives of Brazil and neighbouring countries, they are not tender plants, but may be grown well without any artificial heat.

A WELL FLOWERED GROUP OF ECHINOPSIS

From the botanical standpoint Echinopsis is perhaps only a branch of the genus Cereus, and forms a connecting link between that family and Echinocactus. There are certain species of Echinopsis which from their columnar stems and other characters are practically indistinguishable from Cerei, and at the other end of the line there are several species which have considerable resemblance to Echinocacti; in fact, they are placed in that family by some systematists. But with these this article has nothing to do, the object being to call attention to a group of several species which, with their varieties and hybrids, are the kinds most frequently met with. Following the classification of Schumann in his Monograph, which the present writer considers as satisfactory as any, the type species of the group are five, viz., Echinopsis Eyriesii, E. gemmata, E. multiplex, E. oxygona and E. tubiflora. These have several synonyms, but for present purposes it is unnecessary to give them. These species are so closely related that it is a matter of doubt whether they might not, strictly considered, be regarded as forms only of one. One result of this close relationship is that they will hybridise together freely and in any combination, and, in consequence, there are innumerable forms in commerce appearing under different names which contain in varying proportions the characters of two or more of the above-mentioned species. The flowers are large, sweet scented, in size varying from 6ins. to 10ins. in length and from 3ins. to over 5ins. in diameter at the mouth. In colour they vary from pure white to light rose, which is sometimes uniform and sometimes variegated. The flowers open in the evening and last about twenty-four hours. In shape the plants are globose, varying from forms which are rather broader than they are high to forms which are higher than broad As a rule all the plants with age assume this last-mentioned shape, and in some cases even become shortly columnar. They have vertical ribs studded at regular intervals with small cushion-like processes called areolæ, out of which grow clusters of spines varying in size, number and arrangement, according to the kind. Although the peculiarities of the spine clusters form one of the distinguishing characters by which a species or variety may be identified, this can only be done when the plant has reached a certain size. In this family, as, in fact, with almost all Cacti, every individual passes through a juvenile stage in which it is quite different in appearance from the adult form. In some cases these two forms are so different as to make it difficult to realise that they belong to the same plant. All the Echinopsis of this group are much alike in the juvenile stage, which lasts until they have reached about 2ins. in diameter. Up to this stage they are all furnished with a multitude of fine needle-like spines. With further growth the adult condition is gradually assumed, the new areolæ becoming furnished with the spines proper to the kind. Bearing this in mind, it is obvious that small plants bought under particular names must be taken on trust until they become old enough to show their true characters. The plants do not flower until they have put on their adult costume. Some of the more free-flowering kinds do this as soon as this stage is reached, others require to grow to a larger size first. During the present summer I had several small plants in flower which had only just begun their adult spines.

To return to the five species, a brief description is as follows:

E. Eyriesii.—The plant is light green in colour and usually broader than high. The spines are

very short and thick and project scarcely beyond the tomentum of the areolæ, in some cases not showing at all. The flowers in good forms are 8ins. or 9ins. long and 5ins. or even more in diameter. They are pure white and very sweet.

E. gemmata.—This in growth and spine arrangement generally resembles the last-mentioned kind, but the flowers are not so fine. They are white,

ECHINOPSIS MULTIPLEX AND E. EYRIESII.

rather narrow in the tube and rarely exceed 3ins. in diameter. This is also called E. turbinata.

The next three species differ from the last two in having clusters of long, thin spines, and they differ from one another in certain minor particulars.

E. multiplex.—For size of flowers this is perhaps the finest of the group, as they reach in a good form 10ins. long and over 5ins. in width. The colour is pink, with usually a deeper tint down the middle of each perianth segment. Although so fine, this plant is not so free flowering as the other kinds. This shyness is due probably to its extremely proliferous habit. All the plants of this group increase by offsets pretty freely, but multiplex does so to such an extent, both from the base and from the areolæ, that unless the shoots are removed constantly and as soon as they appear, there is little chance of getting flowers. But the flowers are so fine that they are worth waiting for, and with proper management, especially when the plant is of good size, they may be expected annually.

E. oxygona.—This in stem and spine characters greatly resembles the last-mentioned species. The flowers are similarly coloured, but are not so large and are about 4ins. in diameter. It is a much freer-flowering plant.

E. tubiflora.—This has long spines and the stem is a much darker green than in any of the preceding kinds. The flowers are about the same size as in oxygona and in the normal kind are white, but there is a rose-coloured variety. A specially good form of this is sold under the name of E. Droegeana. E. Zuccarinii is a synonym of E. tubiflora.

It would serve little purpose to mention the names of the numerous hybrids or cross-bred kinds that are obtainable, for every cactus dealer's catalogue contains a large number. The names are in great confusion, as one may easily find out by ordering the same named kind from two different dealers, the odds being very largely in favour of getting two quite distinct varieties. This is, however, of little importance to those who wish only to get good plants and are not very particular about names. A collection of Echinopsis ordered from a grower's list or the names left to his selection will provide great variety in both stem and flower, and give much pleasure to anyone who cares to take the small amount of trouble needed to grow them well.

Cultivation is simple, and the writer's method is as follows: Potting, when required, is done in spring at the commencement of growth. Only young growing plants are re-potted annually, the older ones are left without disturbance for several seasons. The soil used is good loam two parts, and a half part each of coarse sand and broken brick, the latter being in particles of from a quarter of an inch in size to less, but no dust. A sprinkling of bone-meal is also added. Plenty of drainage is provided and the plants are not over-potted. The proper adjustment of the water supply is rather important. As a rule it is better to let the plant get quite dry before giving water, but this drying need not be overdone; in fact, plants which are growing fast and have their pots full of roots will, during summer weather, take plenty of water.

The plants may be kept in an airy, sunny greenhouse throughout, or they may be stood out in the open in a sunny place. The latter is the plan adopted by the writer. The plants in their pots are put outside in May in a spot where they can receive all the sunlight possible, and they are left there until about September. In very wet weather a light is put over them to prevent them getting too much moisture. When flower-buds appear the plants are removed to the greenhouse to flower and are taken outside again afterwards. In September the plants are removed to a sunny shelf in a lean-to greenhouse and are gradually dried off. They remain in this greenhouse throughout the winter and receive no water from October until April. The house in which they are wintered is entirely unheated, and, although frost gets in frequently during extra cold spells, the plants receive no injury. During the severest weather a few sheets of newspaper are placed over the plants to protect them from the sunlight while they are frozen. That this treatment is successful may be seen by the fact that the plants grow fast and flower freely under it. As an instance of their freedom of flowering it may be mentioned that the plants in the group illustrated flowered in June this year, again in July, and are now, in mid-August, sending out fresh flower buds.

These Echinopsis may be planted out in the open ground with quite good results, and they will flower freely under such conditions, but for the sake of convenience it is much better to keep them in pots, as when in flower their beauties can be so much better enjoyed and appreciated. Planting out, if done, should be in May, and the plants lifted in autumn. They may be packed closely together in a shallow box with a little dry mould or ashes round the roots and kept in a dry, light and frost free place until planting-out time comes round again. It might be thought that the loss of rootlets caused by this treatment would be harmful to the plants, but it does not seem to be so, for they start in growth soon after planting, and certainly increase in size quite as much as if they had been kept in pots all the time; in fact, they tend to grow even more vigorously. This method is a useful one to adopt with offsets, and saves the trouble of potting them separately and growing them on in pots to flowering size.

With regard to the purchase of these and other Cacti, they may be bought at any time during the season if established in pots; but, as many trade growers send them out dry and without pots, it is better in such cases to get them as early as possible in spring or in the summer, so that they may get established before winter. A. D. FORT.

Some Notes and Queries on Sweet Peas

The following experiences of this beautiful annual should be read before making out the seed order.

I HOPE I have rescued Mother o' Pearl from an untimely end. When a prize was given for the sweetest Sweet Pea at the National Sweet Pea Society's Show it was easily first. When Sir John Edwards-Moss wrote in early spring about the lack of scent in many modern varieties, I found a few old seeds and sent him some. A few germinated he told me. By now it will have bloomed; what does he think of it? Give me Mother o' Pearl for scent outdoors and Nora Unwin for scent indoors. I have confirmed this last observation again this year.

Is it a fact, or is it my imagination, that as autumn approaches the standards become larger and flatter, more like in shape those of the old non-waved varieties? They seem to me to do so, but the larger size may only be the result of the flattening.

At this time all long stems are past and over, and the majority of the blooms are produced from those little side shoots which are always so wonderfully effective in a garden. What about an August plant smothered in bloom from endless side shoots and the one-stemmed tall gaunt plant of early July with [illegible] and lives on [illegible]

It is a long time since any varieties have taken my fancy as Gladys and Glory have done this year. They are, in their respective spheres, just the shades that I like best. It has always been a source of regret that that most beautiful Pea Constance Oliver (I think it was named) was found to be so unstable that it did not pay anyone to grow it, and that in consequence it dropped out of catalogues. If my eye and my memory deceive me not, the beautiful colouring has been revived in Glory, or, at all events, an excellent substitute has come upon the scene, and I have no longer the same regret. This variety is beautiful under artificial light. Gladys is a blush lavender self, a true self, for the difference in shade between the wings and the standard is infinitesimal. Now, as the days draw in more sharply, it has become more beautiful and even more shapely than it was earlier in the season.

I did not know that there were any of the prehistoric Sweet Peas still in existence until a packet given away to readers of a weekly journal bloomed this year in my garden. I can remember most of the Eckford varieties, but these, from their appearance, must be earlier still. They have very small flowers, but are wonderfully sweet. Walking past them in an evening and then walking past a few of the up to date novelties, one does wish that these last had not shed so much of that delightful factor, scent. In ancient volumes we read about the sympathy and antipathy of plants. If this were not all moonshine, I would hazard a guess that the old-time Sweet Pea and the old-time Mignonette were in sympathy. They must both be only too painfully aware that their modern descendants lack what was one of their chief charms, perfume. "A fellow feeling makes us wondrous kind." By the purest chance a crop of self-sown Mignonette has appeared among some Watsonias and some hybrid primulinus Gladioli on the other side of the walk where the old-fashioned Peas are. The old stagers have figuratively shaken hands and joined forces. The mixture of the two scents on the damp warm evening of the first day of Shrewsbury Show gave me one of those surprise sniffs of strange sweetness which from time to time come upon us and give us all the more pleasure because they are unexpected. It was a delightful combination, Sweet Pea and Mignonette. The blend was such a happy one that I think the tip is worth passing on.

JOSEPH JACOB.

THE VALUE AND USE OF LEAVES AS MANURE

Chemical manures can never entirely replace stable manure, which is steadily becoming scarcer year by year. The treatment of leaves so that they may supply humus and also possess fertilising properties is therefore of the utmost importance.

MORE attention will have to be paid to the question of using vegetable manure during the coming winter than has ever been paid to it before. Stable manure is offered by factors at fabulous rates, and the price at stables is very little less; to this has to be added very considerable amounts for cartage, so that in some districts the cost per load works out at about a pound. Whatever may be said to the contrary, stable manure is assuredly not worth twenty shillings a ton. Gardeners should use it as little as possible and turn their attention to vegetable manure.

Leaf-mould is one of the first materials that one thinks of when searching for a suitable substitute for stable manure, but leaf-mould is, in itself, not rich enough to replace stable manure as an active fertilising agent. It can, however, by treatment be improved so much as to be a most efficient substitute, and there follow methods for carrying this out.

Oak and Beech leaves are undoubtedly best for the manufacture of first-class leaf-mould; but, except in certain districts, there are not nearly enough of these leaves to make the quantity of mould that will be required. Other leaves have therefore to be used; but, rather than run risks of ruining what might be valuable manure by mixing in unsuitable kinds, it is well to destroy on the garden bonfire all acrid leaves, such as those from Conifers and Poplars. Papery leaves, such as those of the Plane, which come to the ground in the late summer, should also not be incorporated, as they are so tough that they will take many months to rot.

The usual way of making leaf-mould is, as all experienced gardeners are aware, to let the leaves rot in a heap or pit for eleven or twelve months, turning them over occasionally so that all the leaves may become uniformly decomposed. This treatment makes admirable humus for incorporating in potting soils. If such leaves are to be of much use for digging in during the late winter and early spring, a more expeditious method must be employed. Experiments last season showed that two methods of treatment give excellent results, and as the matter is of the greatest importance to gardeners, both are outlined below.

The first method involves the use of half-rotted vegetable refuse, Cabbage leaves, seed-free weeds, grass clippings and so forth. A hole is got out, sufficient to hold at least three-quarters of the material that will be required, and a thick layer of half-rotted vegetable refuse is first thrown in. The leaves as collected are shot into the hole, a few cans of water in which a little superphosphate of lime is dissolved being thrown over them. If the leaves are collected in very wet weather, which is advisable, as they then do not blow about so much, it is unnecessary to water them. In this case a little dry superphosphate should be scattered over them to increase their manurial value, and at the same time to hasten to some small extent their decomposition. Having put in leaves to a depth of about 10ins., the mass should be trodden down as firm as possible. It will be found that they will shrink by at least one-half. It is then advisable immediately to cover them up with a further supply of half-rotted vegetable refuse, making this moderately firm. The process is repeated as necessary until all the available leaves have been collected. A thick layer of half-rotted vegetable refuse, or, failing that, soil, is then thrown over the mound.

A large hole is now, by means of a wooden pole, bored in the top of the mound, and into this is tipped all liquid manure that can be spared. Strong house slops can be pressed into service should the supply of liquid manure from the farm or the gardener's liquid manure barrel be exhausted. Further soakings should be given at frequent intervals, and it will be found that in a little time the whole pile will begin to ferment, and will be quite warm when the hand is put down the bore-hole. In a very few weeks the whole mass will have become rich in valuable humus, and by Christmas the heap can be taken to pieces, the outer parts being thoroughly mixed with the rest and dug in without further treatment.

It sometimes happens that such an abundant supply of vegetable refuse is not available for the making of leaves into humus. It goes without saying that if they are mixed with stable manure their decomposition will be greatly hastened, and the manure will go a great deal further. The second method, however, involves neither the use of vegetable refuse nor of stable manure. This method is based on the fact that artificial fermentation can be induced by the application of heat to wet vegetation. The garden bonfire will be in full swing throughout the autumn and winter for destroying any forms of vegetable refuse which are too hard to rot. There is a great deal of waste heat which might well be utilised, and this can be turned to advantage for the speedy conversion of leaves into humus. In the first place, if it is impossible to collect the leaves in wet weather, they must be given a thorough soaking of plain water. It should be noted that it is quite unnecessary, and, indeed, wasteful, to soak them for this purpose with liquid manure, as if this be done much of the food content of the liquid manure would be wasted. The garden bonfire should be coaxed until it is a mass of red-hot ashes, and upon this should be quickly piled a large quantity of the soaked leaves. Instantly the outer redness of the fire will vanish, and such heat will be evolved as will make the material sweat right through. This sweating makes the material commence to decompose, and while a small proportion of it is certain to be charred, comparatively little waste of humus is involved. Do not let the fire burn through it though, otherwise its value for humus will be practically nil. Preferably it should be dug in while it is still sweating, and a little dissolved bones or superphosphate may be scattered over it along the open trenches.

E. T. ELLIS.

Two Desirable Foliage Plants

WE know the handsome Chinese Bocconia as a tall thing with plumes of buff flowers, rather too large and invading to be quite admissible to the flower border, though grand in spaces among shrubs. But there is another use to which it may be put that makes it welcome among border flowers. This is as a glaucous foliage plant of moderate height. If it is kept cut down to 2ft. and the axillary blooming shoots are watched for and removed as they appear, it not only has a distinct value of its own, but it is a becoming foil to any plants of pink, white or purple colouring. It is advisable to treat the annual Atriplex hortensis in the same way, but not to check the bloom. In a well manured flower border it will grow 7ft. to 8ft. high, but its best use is to come just in front of Dahlias of red colouring so as to hide the greater part of their greenery. It is stopped twice during the summer, making it grow more bushy and increasing the quantity of flower. About the time that the Dahlias are in bloom all the upper part of the Atriplex has changed to flat seedpods of a quiet red colour, a little warmer than the reddish glaucous tone of the foliage, the whole group forming a rich setting to the brighter red bloom of any richly coloured flowers that may be grouped with it.

G. J.

NEW AND RARE PLANTS

r the Royal Horticultural Society's Show on eptember 6 Dahlias greatly predominated among ne novelties, and no fewer than eighteen were elected for trial at Wisley. Of other plants, here were half a dozen Gladioli from Holland, nd several of them were particularly good. Two ladioli and a China Rose received awards of erit.

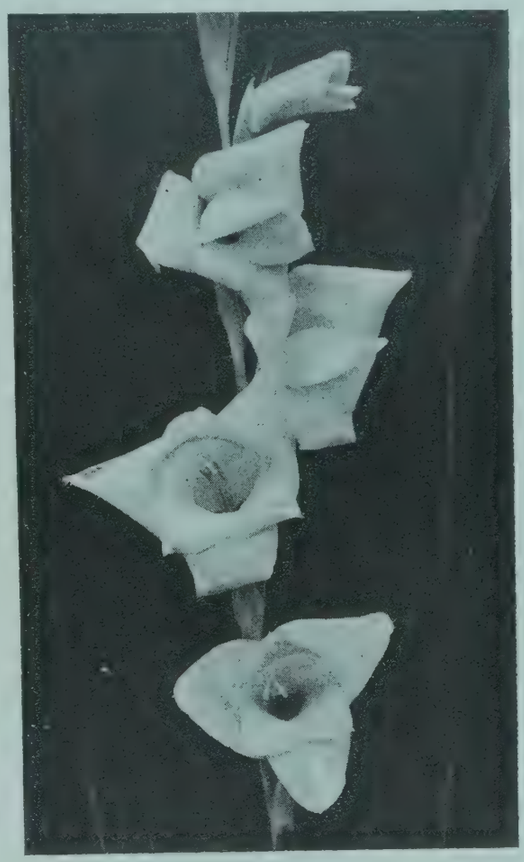
Gladiolus Odin.—This is a very handsome nd uncommon Gandavensis variety. The erect pikes are well furnished with most brilliant almon-flushed flowers, and each lower segment as a definite crimson bar on scarlet ground. Award of merit to Messrs. K. Velthuys, Limited.

G. Souvenir.—A graceful Primulinus hybrid of uncommon length which has more flowers open at the same time than usual. At first sight it seems to be purely self coloured, but a critical inspection discloses two or three faint radiating crimson lines on the rich yellow. Award of merit to Messrs. K. Velthuys, Limited.

G. Yeoman.—A graceful Primulinus hybrid of rich salmon-pink colouring. The flowers are well disposed on the spike.

G. Kundred.—This is a particularly large and more rounded bloom than is usual in Primulinus hybrids. The colour is a pleasant pale yellow, and this is relieved by a definite carmine line in each of the two lower segments. Both of these varieties were included in the exhibit by Major Churcher, which was awarded the Foremarke Cup, presented to the Royal Horticultural Society by Sir Francis Burdett.

Rose Dresden China.—A very free-flowering China Rose of exceptionally good size and shape and of pleasing delicate fragrance. It appears to be a fairly dwarf variety and the flowers are borne in large flattish clusters. The colour of the outer petals is a deep cardinal red—quite a sunburnt red—and this contrasts well with the delicate blush pink of the centre. Award of merit to Mr. George Paul.



GLADIOLUS SOUVENIR: A NEW PRIMULINUS HYBRID.

GLADIOLUS YEOMAN: A RICH SALMON PINK HYBRID.

Dahlia Salmonea.—A medium-sized to large decorative variety of bright salmon pink shading.

D. Vesuvius.—A compact decorative bloom of good size and vivid crimson colour.

D. White Queen.—This is an immense flattish Cactus variety with broad radiating petals and nearly approaching the decorative type. The stalks are stout and the flowers show well.

The Rose.—A very bright, compact, rosy mauve decorative variety.

Artus.—This medium-sized glowing scarlet decorative variety had a number of awards on the Continent last year. All the above were shown by Messrs. K. Velthuys, Limited.

Miss Willmott is a pretty single of velvety crimson colour which pales greatly at the tips. It is a perfectly round flower.

Mamie.—An uncommon single. A broad band of velvety maroon is set in a ray of rosy mauve.

Auchfield Star.—This latest addition to the decorative Star Dahlias is yellow suffused towards the tips with rosy lilac. These three varieties were shown by Messrs. J. Cheal and Sons

Trixie.—A small, well formed Pæony-flowered bloom of deep scarlet colour

Blanche.—A good pure white decorative variety of moderate size. This and the foregoing were shown by Mr. T. Burrell.

Dauntless.—An immense decorative bloom of compact form. The ground colour is milk white and this is heavily suffused with vivid crimson towards the centre, leaving the tips white.

Goldfinch.—A loose, floppy Pæony-flowered variety of medium yellow colouring.

Pilot.—A collarette Dahlia. The petals are of dull carmine colour and the long quills are freely striped with white.

Gallant.—A very large decorative bloom. The velvety crimson centre florets become scarlet with age.

Big Ben.—A claret coloured decorative variety lightly suffused with crimson.

Champion.—A rather broad-petalled Cactus of brick red colour slightly suffused with purple.

Miss Mallison.—A very pretty decorative bloom of silvery lilac colour.

Princess.—A large Cactus variety. The petals are only slightly rolled. The ground colour is yellow and this is heavily suffused with carmine on the developed petals and stippled with the same colour in the centre.

The foregoing eight varieties were shown by Messrs. J. Stredwick and Son.

NEW FRUIT.

Apple Mrs. Wilmot.—An Apple of great attraction and somewhat of Red Astrachan appearance, but later in season. It has a shining red skin, lightly spotted with a darker shade. The flesh is yellowish and firm and, although not quite of first-rate flavour, is said to be very good eating. It is a most handsome dessert fruit. Award of merit to Messrs. J. R. Pearson, Limited.

Although not new, the bunch of Black Hamburgh Grapes shown by Lord Strafford deserves mention. It was a splendid bunch and cut from a Vine planted in 1785, which was a cutting from a Vine brought from Holland in 1710. Card of cultural commendation.

GLADIOLUS KUNDRED: FLOWER PALE YELLOW.

IN THE COUNTRY of the REDWOODS

ONLY those who have lived the vagabond life on the long, brown, dusty trail which for so many of California's nomadic sons has no ending can quite realise what it means to get into the Redwood country. I had for some months dwelt among the fallen; had drifted, indeed, for nearly a thousand miles on that tatterdemalion tide of caravans which flows unceasingly from Mexico to Oregon and back again to Mexico, until at length I found myself in that land of noble trees, fertile orchards and lovely gardens which lies between Monterey Bay and San Francisco.

Fair valleys I had enjoyed elsewhere—at Santa Barbara, in the Santa Lucia mountains and along the famous rainbow rivers which are born in the seven glaciers of Shasta. But the little cañon of the San Lorenzo where the giant Redwoods live was, like the lady in the old song, fairer than them all. In all that land of romance and everlasting summer here was El Dorado to the sun-beaten wanderer of the burning South and inland plain. No longer did the track lay thick with dust, for cool jets of water pattered over the rocks, beading the tender beauty of Maidenhair Fern with glistening opals. Tall Spiræas in cream and pink raised their panicles of bloom above the rich verdure of the ditch. The Salmom-berry (Rubus spectabilis) blossomed as profusely as our own wild Rose, Castilleja daubed the sunlit knolls with blazing scarlet, and a Coreopsis (probably C. Douglasii) starred a mosaic of blue and yellow Lupines with gold. Everywhere the rich green of a shrubby Mimulus was flecked with its twin flowers of orange or buff, and beneath the blooming Chestnuts and stately Firs a rich undergrowth of Azaleas flooded the air with fragrance—the air that was filled with the golden effulgence of summer and animated with the spirit and beauty of the humming-birds.

Yet, amid all this wealth and charm, it was the Redwoods which ever insisted upon dominating the scene. Whether they stood in groups by the roadside or as single specimens in some sun-filled clearing; whether they swarmed in battalions up the hillside, trampling under foot the fallen and covering with new life the blackened dead that lay in the wake of a forest fire, it was ever the same—you were in the Redwood belt, and the great forest proclaimed that fact from legions of soaring spires.

Although the two species of Sequoia are in many respects much alike, they occupy tracts of country which differ very widely in climate and altitude. The big trees proper (S. gigantea) are segregated in isolated groves on the heights of the Sierra Nevada, some 5,000 feet to 8,000 feet above sea level. Here the summers are hot and rainless, the winters cold and snowy. The forests are often thin and the undergrowth poor or altogether absent. The Redwood (S. sempervirens) flourishes in conditions which are almost the precise opposite. Where it grows the annual temperature maintains a high and even level. There is but little snow and an abundant rainfall at certain seasons. But the most unique feature, if not the primary charm, of the climate of the Redwood belt (an extent of country covering some 10,000 square miles) is the sea mists of its rainless summer months. It is to these water-bearers of the night that these Sequoia forests owe so much of their delight and the cañons their floral luxuriance. They make the great trees drip; they made poor Stevenson cough, these "Pacific billows . . . rolling in mid-air among the tree tops." And to have watched from your bed of Fir branches that wreathing vapour, blue-white like sea spray in moonlight, silently scudding across those matchless stars and combing itself into streaming tresses of silver through the dark, still summits of the Redwoods is to have seen something to have lived for. And then, when morning comes, instead of being tormented into premature activity by flies, or fried by the beams of an unsparing sun at 4.45 a.m., you can rise with becoming dignity at a Christian hour, clean your boots like some Homeric hero by strolling through God's dew-drenched grass, brew your coffee at leisure in an air that is as keen and fresh as that of an ideal October morning in England, and burn your excellent American Virginia before the blue-grey curtains are drawn aside and the sun again blazes forth upon a world re-born. But, alas! the wind is wailing the obsequies of summer. The chill finger of approaching winter has already left its pale imprint on the green of the woodland. The world is at war. And the abiding peace of that sweet valley seems very far away .... So to more practical considerations.

A GROUP OF REDWOODS (SEQUOIA SEMPERVIRENS) AND SOME LUSTY "STUMP-SPROUTS."

Both in its native California and in this country where well grown trees are now not uncommon the beauty of the Redwood excels that of Sequoia gigantea in general symmetry and wealth of foliage. This species, moreover, has a remarkable vitality. Like the Yew, to which it is closely allied, it sends up "stump sprouts" of a vigorous and rapid habit of growth whenever the parent tree has been destroyed, so that the Redwood grove, whether it has fallen behind the lumberman's axe or become charred by forest fires, is soon green again with the lusty growth of innumerable saplings.

This wonderful recuperative power, together with its great commercial value and adaptability to almost any soil or sheltered situation, should claim for the Redwood, as a timber tree, more attention than has hitherto been accorded it in this country. The wood is extremely durable, especially in contact with soil. It is straight-grained, works easily and is free from resin. This last fact is a primary reason for its popularity in America in the construction of frame-houses, those cities which are built of the non-resinous timber of the Redwood being much more easily controlled in cases of fire than where Pine and Fir are used. The warm red, Cedar-like wood is very fragrant and finishes with a fine and silky surface. It is in almost universal use for roofing on the Pacific Slope, since it is so absorbent of moisture, and consequently so expansive, that the shingles automatically seal their own cracks and crevices immediately rain falls. Redwood sawdust, I am told, has now almost superseded Cork dust as a packing for fresh Grapes in California.

Sequoia sempervirens has not been the subject of so much imagination and controversy as S. gigantea. It is, nevertheless, among the wonders of the vegetable world. Old trees have attained the great height of over 300 feet with a trunk some 16 feet in diameter, measured well above the spreading base. The Redwood's bark is often over a foot in thickness, and this is, either by chance or design, a very great protection against destruction by forest fire. Although there has been a good deal of nonsense written about the age of the Sequoias, there can be but little doubt that the finest specimens of the sempervirens groups are no less, and probably more, than 1,200 years old. But there is, after all, some excuse for patriots and poets enthusing over the Sequoias, for in stature and nobility they are more imposing than any other living thing. In them Nature's architecture has reached its greatest perfection. The wonderful symmetry of the stem, which rises in a fluted column to such an immense height, embodies the expression of strength, solidity and permanence. Yet, even in the oldest trees which are often very snagged and deficient in foliage, the massiveness of their colossal trunks never once offends the ethics of art by overwhelming that spirit of grace and those lines of elegance which are embodied in the great trees' offspring in stone, the Doric pillar.

Nor can we forget that the Sequoias are survivors of a mighty race of arboreal and other giants that once dominated vast ranges of the prehistoric world. How they escaped the doom of their great contemporaries, animal and vegetable, which now afford geology its romance, no man knows. But there they are, congregated in comparatively small groups, limited in area and confined to a remote corner of the earth's surface. And few can look upon their classic beauty without feeling moved by that veneration which is due to the sublime and ancient things of a bygone age.

A. T. JOHNSON.

The Fig Tree Outdoors

Its Culture Simply Explained.

IT must, I fear, be admitted that the Fig tree has been a failure in this country when judged by its fruiting outdoors. Here and there we come across brilliant exceptions, clearly proving that the fault does not lie with the tree. Where this tree does happen to be successfully grown outdoors, few other outdoor fruits are more appreciated when ripe. Seeing, then, that success in its outdoor fruiting is achieved by many, but that failure to do so greatly preponderates, surely it behoves us to find the reason.

The Fig is a more or less tender tree, subject to injury from severe winter and spring frosts. This limits its growth outdoors where these conditions prevail; but to our Southern and Home Counties, to many sheltered spots in the Midlands and to our western seaboards frost is not a serious enemy. The Fig tree does, undoubtedly, suffer damage from attacks of severe frost, and the grower should bear this in mind and be prepared if occasion arise effectively to protect his trees. The simplest and most efficient protection I have found, whether for the protection of trained trees against walls, or bushes in corners at the foot of warm walls, consists of home-made wattled straw hurdles to cover the trees, at the same time piling heaps of littery straw round the stems and pegging or tying it down. These screens can be erected and removed in a very short time and with little labour.

The Fig is supposed to be a native of the Mediterranean region—Syria, Eastern Persia—and under the influence of the stronger sunshine of those countries no difficulty is found in ripening its soft, pithy growth of leaf and wood. This is our difficulty: with our short, comparatively sunless summers, to find means to secure this essential condition of ripeness of wood. Such essential conditions are, fortunately, not difficult to supply. Of several conditions essential to this ripeness, one is to convert the tree from an infertile to a fertile condition. Once a tree is persuaded to bear moderate crops of fruit every year it cannot afterwards indulge in the luxury of producing extravagant and useless growth of gross and infertile wood. One method of inducing fertility is by confining, at planting time, the roots to a strictly limited soil space. A large enough space for the first two years should be 3ft. square; the depth of border, including drainage of 4ins., should be 3ft., the sides and ends being temporarily bricked in. It may here be mentioned that the best time to plant is during the month of October while the soil is still warm.

Another necessary condition is that the soil it is planted in should be comparatively poor. A good compost for the purpose is as follows: To every bushel of good fibrous maiden loam add a quart each of bone meal, lime and wood ashes. If wood ashes are not procurable, substitute 1lb. of kainit. In planting, bear in mind to press the soil well to the roots of the young tree and to tread down as firmly as possible. Finish by giving a good soaking of water to the tree and the soil immediately around it, but not to the whole of the border. The above conditions will go far to provide a growth of moderate sized, hard and fertile wood which, with careful management in other directions, will not fail to produce satisfactory results

As regards pruning, if summer pruning is properly attended to there should be no winter pruning to do. The leaves of the Fig are large, of leathery texture and, if allowed to grow freely, they will, in summer, so choke one another and the shoots which bear them that it will be impossible for sun or air to penetrate—without which perfect ripening of the shoots of the current year's growth is impossible. As next season's fruit is dependent on the thorough ripening of this year's wood, it follows that unless proper thinning be done, it will be hopeless to look for a crop of fruit.

It is late in spring before the outdoor Fig tree breaks into growth, generally late April or early May. Summer pruning should then commence by the removal of the weaker buds as they burst into growth. The inexperienced need not fear to do this, as there will be plenty of stronger buds left to produce as many or more shoots than will be wanted for furnishing the tree during summer. As growth of the leaves advances see to it that the branches do not overlap one another, but that each is exposed to sun and air. If congestion of branches is noticeable in any part of the tree a shoot or shoots should be cut out to the base at any time during summer, always removing the weakest. Some people seem afraid to cut out whole shoots in summer lest the trees bleed or some other calamity happen!

In the autumn after the leaves have fallen it is often noticed that a large number of small Figs have been formed on the shoots of the previous year's growth. It is better to rub all these off as soon as the trees are completely at rest.

OWEN THOMAS.

HOLLAND IN ENGLAND

SCATTERED throughout the country there are quite a number of interesting bulb farms—little Hollands in England. Not only those of the well known large growers, but smaller places as well, where the one and only work carried on is the production of bulbs and cut bloom for sale. Glance at the accompanying illustration and you might easily imagine it to be a typical Dutch scene with windmill, serried ranks of blazing colour and all complete; not so. In February the modest Snowdrop flowers in myriads. Hard upon its heels follow countless thousands of golden Daffs, swaying and nodding in the breeze; Daffodils in every hue, pale primrose—so pale as to appear almost white—to deepest gold. Short trumpets, long trumpets, Barris, Leedsiis, Incomparabilis, all follow hot foot one upon another in the race to welcome the returning sunshine. Standing upon an elevation one looks upon a great sea of sunshine gold, as though the grey clouds had rift asunder and a great searchlight were concentrating its powerful beam on the land. Here and there are streaks of blue formed by the azure of the massed Bluebells, and beyond, stretch the hills carpeted with emerald greenery. Wait, however, until May, when the long-stemmed Darwin and Cottage Tulips are ready to expand if you would see the full glory. At no other time in the year does a bulb farm display such a riot of colour. While the Daffodils yet linger here and there in narrow beds the Tulips commence to show their quality. Deep glowing velvety crimsons, pinks that shame the blush of the fairest maiden's cheek, coral, scarlet, burning orange, gold, yellow, white, all these are drawn up in ranks—not as we know them in our gardens by dozens and hundreds, but by thousands and hundreds of thousands. Flowers are cut and cut and still the fields blaze with colour. Each and every bed has to be scrutinised by expert eyes for rogues and sports so that the stock sent out is "true." Then, as the weeks go on, comes the great work of lifting, grading and packing, and so into autumn when there is more work than ever, replanting the beds for the coming spring. Before this, however, the Gladiolus has a word to say, and here, as always, speaks in no uncertain voice. Though the area given up to it is less than that devoted to the Tulip, the intensity of colour is wonderful, and one can but bow once more before the glory of that magnificent late summer and autumn flower as it stands there, radiantly triumphant in its beauty.

A TYPICAL ENGLISH BULB FARM.

CORRESPONDENCE

A VINE WITH A HISTORY.

SEVEN years ago a Kirkintilloch gardener picked up a small piece of cane about 6ins. long from a rubbish heap. He took it home and

THE RESULT OF A "FIND" IN THE RUBBISH HEAP.

planted it, along with a number of flowers, in his greenhouse. To-day it bears this rich burden, though no special treatment was given it. It can be seen at Broomhill Home, Kirkintilloch.—J. B.

DAMAGE BY SQUIRRELS.

IN reply to W. Mason, in your issue dated September 3, page 447, damage has also been done in my garden in Surrey by squirrels. They have attacked Mulberries and some of the dessert Pears. I first observed squirrels in my garden two years ago, but until this year the damage done by them was comparatively small. I think the most plausible reason for them attacking fruit this year is the long spell of drought which we have experienced this summer. Owing to the scarcity of moisture they have naturally turned their attention to soft fruits.—H. G.

ROSE VICTOR HUGO.

MENTION is made of this Rose on page 430, which was introduced by Schwartz in 1884. Which reminds me that it is still cultivated and highly prized in gardens yet for its continuity of flower, wonderful colour and fragrance. At Aldenham a bed containing as many as five dozen plants has been in existence thirty years, and from the appearance of the plants looks like going on another thirty. I need hardly say the bed has been replanted many times during that period; the soil has had the usual Aldenham trenching and, I dare say, manuring also. There it is still one of the most highly prized Roses in the garden.—E. M.

A PLEA FOR THE GERANIUM.

ON page 448 of THE GARDEN, September 3, under the heading, "A Broken Resolution," a note begins: "All gardeners at some time or other have made up their minds to scrap Geraniums." May I submit that such a resolution should never have been made, and ask why any sensible gardener should desire to "scrap" one of the very finest of garden flowers? As well might one resolve to "scrap" Heliotrope or Canna or Dahlia, or any others of the best tender things that we put out for summer. One sees how such an idea may have arisen, though it can only have been entertained by those who did not think very clearly about the needs of the garden. Fifty years ago, when the bedding system was rampant, many gardens were almost entirely given over to beds of Geraniums, and the kinds then were but few—there was the ubiquitous scarlet Tom Thumb and Flower of Spring and, perhaps, half a dozen others less well known. They were planted everywhere, in wearisome and monotonous repetition, without any special consideration or any distinct impulse except that of following the fashion. May I assure my brother gardener that the Geranium needs no apology now that we know better how to use good plants. There are many gardens of the nature of formal parterres close to the house for which a large proportion of Geraniums is the very best filling, and, as far as we can foresee, always will be; and now that, by the patient work of our own and foreign nurserymen, the kinds are almost bewilderingly numerous, the range of colouring widely extended and the quality much enhanced, there is no excuse for not putting them to the best use. The same in a slightly lesser degree may be said of others of those we still call bedding plants. There is nothing better, as a clear, clean yellow, than Calceolaria amplexicaulis, or brighter than the little blue Lobelia Erinus. Let us be just and acknowledge that it was not the fault of these plants that they were used in dull and unthinking ways half a century ago, but rather let us restore them to favour, recognising their own undoubted merits, and put them to the better uses that we now understand.—GERTRUDE JEKYLL.

WATER BATH FOR BIRDS AND BEES.

IN a garden which I recently visited I saw a rather quaint contrivance which looked quite artistic. It was a small concreted basin about 1yd. in diameter and was constructed in the central bed of a rock garden. It was not intended for the growing of plants or for use as a water garden, but was made to induce birds and bees to come to the garden for a drink or a bath. The maker told me it was most interesting to watch the bees drinking from it. I think it is best to have a waste hole with a stopper, as the receptacle can be cleansed occasionally. When the rock plants begin to fringe it, it will be quite a feature in the garden and add to its interest. Rain will generally keep it filled, but an occasional pailful of water will keep it quite supplied.—WALTER SMYTH.

THE VITALITY OF SEEDS.

AN interesting example of the vitality of seeds has occurred on some allotments in the Golders Green district. The cultivators are in the habit of using sewage as manure and for lightening a clay soil. This year, from out of the stuff lightly pricked into the soil, has appeared several Tomato plants evidently the result of undigested Tomato seeds embedded in the sewage material which, despite the chemical treatment accorded to the sewage, have survived and germinated. An allotment holder, who has allowed the plants to grow almost wild, tells me he has gathered 12lb. of fine green fruits—180 Tomatoes—from his self-sown plants! Is not this remarkable?—H. A. DAY.

[Many country readers who utilise their own sewage for fertilising the kitchen garden will have observed stray Tomato plants growing from seeds which, after immersion in the disposal tank for an indeterminate period, have germinated on the garden and grown with truly remarkable vigour, producing large numbers of fruits which in the course of the summer swell to considerable size, and, occasionally, even to colour. It would undoubtedly appear that the more or less prolonged immersion had a beneficial effect on the germ, since ordinary seed sown in similarly fertilised soil will be found not to make similar progress.—ED.]

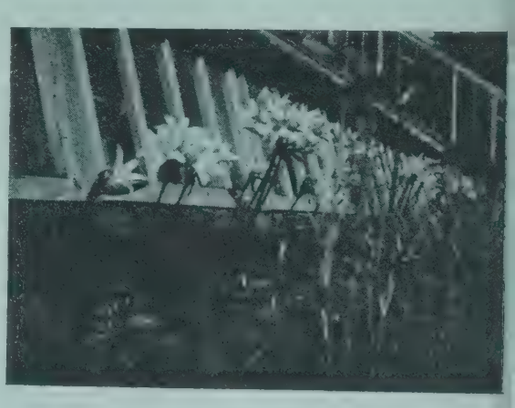
THE WREXHAM DELPHINIUMS.

WE wish to point out that in the Rev. Joseph Jacob's article on "The Wrexham Delphiniums" the variety called Millicent Langdon should have been Millicent Blackmore. We should like to add that Mr. Jacob cannot be acquainted with this variety if he says the flowers are arranged in "a rather packed mass." We have yet to see the variety to equal it, both for form of spike and also the ideal arrangement of the flowers on the spike, each pip being shown to advantage while having plenty of room.—BLACKMORE AND LANGDON.

I AM sorry I have put west for east at the bottom of Column 1, page 442, and at the bottom of column 2 Millicent Langdon ought to read Millicent Blackmore. This is too good a variety to sail under any name but its own. It has a spike nearer my ideal than most.—J. J.

THE BELLADONNA LILY.

WITH reference to the article in your issue of August 27 on "Belladonna Lilies," I send you two snapshots of a few of ours (one reproduced on this page) taken by my son. Eight years ago Lord Charnwood and I brought home to my mother, the late Mrs. Roby Thorpe, a very keen gardener, a sack of bulbs of the wild Lily from Madeira. My mother had them planted just as your article suggests, in front of a heated greenhouse. They were very disappointing, and only a few short spikes came up until this year. Owing, I suppose, to heat and drought, we have this year three dozen splendid spikes 18ins. to 2ft. in height, with many flowers to each stalk, each flower exquisite in colouring. The row is sheltered behind a tall herbaceous border and very difficult to photograph, but the enclosed will give some idea of their beauty. This is a cold and damp part of the country, and this wonderful line of hot-house flowers has



AFTER EIGHT YEARS OF DISAPPOINTMENT.

created much interest. It is all the more surprising as we had given up hoping that they would ever do much.—D. M. R. CHARNWOOD, *Lichfield*.

IN the Southern Counties, at any rate, this Lily succeeds admirably with but little preparation if a site at the base of a south wall can be given it.

irty years ago I planted a few bulbs in prepared npost—loam and leaf-mould—at the foot of an tside low wall of the plant stove. Since that riod the plantation has been extended along the nt of a Peach house and greenhouse; but, with more preparation than deeply trenching the soil, ormous has been the increase of bulbs and corre-onding quantity of flower.—E. MOLYNEUX.

REMBRANDT TULIPS.

THOSE Tulips that are known as Rembrandts are Darwins that have broken into a per-anent variegation, and remarkably beautiful id attractive they appear to those who admire "fancy" flower. All of them combine two or ore colours and are both feathered and flamed, ten in the same bloom. By the way, a "flamed" ariety is one that is blotched and marked all over ie petal, while a "feathered" variety has the ldditional colour only in the form of a feather ong the edge. Culturally, their needs are much ie same as other Tulips, save that too rich a soil unnecessary and, in common with the Darwins, ney can be left in the ground from year to year nd do not demand annual lifting and replanting. number of groups of these among herbaceous lants on a sunny border are the greatest possible ssistance in May in adding colour and interest ist at a time when these are apt to be rather slack. A dozen very fine varieties—that will keep the dis-lay going almost through the month—are as ollows: Four early varieties—Anna Maria, avender mauve, flamed and blotched with purple nd white, 18ins.; Harold, crimson flaked with naroon, 24ins.; Hebe, white and lilac blotched vith maroon, 18ins.; Sirene, dark maroon flamed white, 18ins. Three second early varieties—Bour-gainville, flamed violet rose and maroon on white ground, 26ins.; Crimson Beauty, cherry red blotched and feathered white, electric blue centre, 17ins.; Semele, feathered old rose on white, 25ins. Three mid-season varieties—Caracalla, white flamed and feathered with cherry red, 21ins.; Eros, silvery lilac blotched purple, 26ins.; Rosy Gem, lilac feathered dark red, 24ins. Two late varieties—Esopus, flamed red and white on crimson ground, 17ins.; Quasimodo, flamed white on a crimson ground, 21ins. Make a note of the different heights when planting or you may find that the dwarfer forms have been placed too far back, while the taller are too far forward.—H. W. CANNING WRIGHT.

THE MIDLAND DAFFODIL SHOW.

THE report for 1921 has just reached me. I am sure the Rev. Joseph Jacob (page 220) will not object to my correcting a mistake which occurs in the course of the very interesting descriptions of flowers he specially noted at Birmingham. He credits me with raising a seedling of which I showed three blooms under the number B.248/12 in my group of twelve Trumpet varieties. I did not raise this flower; it was raised by The Brodie of Brodie, Brodie Castle, Forres.—GUY L. WILSON.

OWING to a typist's mistake in using the report part instead of the schedule part of the nineteenth annual report of the Midland Daffodil Society, the heading of Class 32 in the twenty-first report was put to Class 37 in error. On behalf of the Committee I beg to apologise to Messrs. E. H. Krelage and Son of Haarlem. They were the winners of the Cartwright Cup at the 1921 show. May I also say how sorry I am for my mistake in naming the raiser of Wilson's B248/12. This striking novelty was raised by the Brodie of Brodie.—JOSEPH JACOB (Chairman of the Committee).

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Border Carnations.—When the layers are well rooted they may be planted in their permanent quarters or potted into 4in. pots and wintered in cold frames. The latter practice is the one to be advised on cold, wet soils, and also for choice varieties and those with somewhat weakly constitutions. On warm soils in southern gardens planting can safely be carried out at this season. In addition to the border Carnations alluded to above, plants of the Allwoodii family may be so treated, also young stock of the Pink family, such as Mrs. Sinkins. Where potting up and wintering is carried out in frames it should always be remembered that dampness is a greater enemy than dry, frosty weather to outside Carnations in company with many other hardy plants.

The Kitchen Garden.

Carrots.—Where the maincrop is showing signs of maturing lifting may be proceeded with at once, especially with those growing on heavy soils, for should a rainy period set in, the roots will commence to crack, which renders them unfit for long storage. The late batch will be all right for several weeks yet. Carrots sown within the last few weeks and intended to stand the winter should be thinned as necessary and given every encouragement to make headway by giving them a dusting of matured soot and wood-ash and lightly hoeing it in.

Turnips.—The recent sowings of these also call for attention in the matter of thinning, dusting as for Carrots, and the plying of the hoe fairly frequently. Should it have so far proved impossible to make a late sowing, it may still be done provided a quantity of good soil can be given up to them. Large roots must not be expected from this sowing, but an abundance of healthy green tops will be available during spring, and there are few vegetables with better tonic properties at that time of the year.

Parsley.—The sowings intended to furnish winter and spring pickings have not so far made the growth one would wish where the sowing was outside, but from boxes and cold frames in cooler and more moist conditions useful plants are now available for planting in frames and warm sheltered positions outside. Failing frame accommodation an excellent spot may sometimes be found close to the wall of a range of fruit houses. The little warmth which is nearly always to be noted in such positions will suit the plants admirably. I have seen Parsley gathered from such positions when practically all other sources of supply had failed.

The Hardy Fruit Garden.

Outdoor Figs ripening must be carefully protected from birds and insects by the use of fine muslin bags. Care should be taken to see that air and sunshine have full access to them, two essentials for the proper finishing of the fruits. See that a sufficient number of well placed healthy young shoots are laid in, but not too closely together, for it is from these we shall obtain our next year's crop of fruit. The Fig is sometimes impatient of a too free use of the knife, but strong fore-right shoots must be removed.

Filberts and Cob Nuts intended for storage must be allowed to thoroughly ripen before they are gathered. They should be picked with their husks on and spread out for a few days in an open, airy shed previous to storing them away in jars or other receptacles and covering with sand.

Plants Under Glass.

Valotta purpurea.—Where this plant has been semi-resting in a cold frame or out of doors during the past few months it is now advisable to place a light on the frame or remove to shelves in a cold house. This will safeguard the plants against getting too wet through heavy rains and serve as a protection against sudden frosts.

Chrysanthemums.—Those plants which have been grown with a view to obtaining exhibition blooms must be housed in good time in a light, airy structure where every care can be given them. On the other hand, nearly all decorative varieties may be left outside as long as possible, only housing when the needs of the establishment demand it and climatic conditions become quite unfavourable. Late batches should be arranged in convenient positions against walls or trellis where protection may easily be given with canvas. Dealt with in this manner they may with advantage be left outside for several weeks, especially when the housing of them must be carried out in the fruit ranges. Where a large airy structure can be entirely given up to them the matter is quite different, but it is decidedly harmful to the plants to huddle them closely together under fruit trees, and, more important still, it is absolutely wrong as far as the health of the trees is concerned.

Fruit Under Glass.

Pot Fruit Trees cleared of all fruits should be standing out of doors and sufficiently secure that high winds do not blow them about. Where potting and top-dressing are necessary, such work may now be taken in hand, commencing with Peaches and Nectarines. The main compost should consist of good fibrous loam to which may be added a little bone-meal, wood-ash and old mortar rubble, being more liberal in the supply of the latter when dealing with Figs and stone fruits. Good drainage is essential, and the work of potting or top-dressing should be firmly done.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Celery.—Continue to earth up Celery as growth advances; tie the stalks together with a piece of soft raffia and so prevent the soil from working into the centre of the plant. If the soil is heavy or lumpy, break up thoroughly before working it in firmly round the heads. If the work is done carefully, nicely blanched specimens will be obtained that are so highly prized during the winter months.

Potatoes.—Maincrop varieties are now ripe so should be lifted and stored without delay. Take advantage of a sunny day for the work and leave the tubers lying on the ground for a few hours to dry before removing to the clamp or cellar. Clear away all the withered haulm and leave the ground in readiness for winter digging.

Cabbages.—Complete the planting of these, as this will allow the young plants to become established before the winter sets in.

Plants Under Glass.

Daffodils and Polyanthus Narcissus should be potted up without delay and given time to complete their root growth before being subjected to forcing. Use 6-in. or 7-in. pots for the purpose if intended for conservatory decoration, but if for cutting purposes the deepest type of seed-box will suit. Keep in the plunge for a period and so more quickly induce root action.

Housing Plants.—With the clearing out of Tomato and Melon plants, various houses will now be ready for the reception of many subjects, which, up till the present, have been enjoying frame or open air culture. Azalea indica, Salvias, Camellias, Eupatoriums and Calla Lilies will all require to be placed indoors now that frosty evenings are at hand. Before housing, wash the pots and clear the plants of weeds and withered foliage. Leave abundance of ventilation in the houses during fine weather.

Gloriosa superba.—As this elegant stove plant stops flowering and the foliage shows signs of ripening, water should be gradually withheld, as no moisture is necessary during the resting period. The pots may be placed on their sides underneath the stage in a moderately warm house for the winter.

Caladiums and Achimenes.—Water should also be withheld from these and the plants housed in a pit, where the foliage will die off gradually and so let the corms go naturally to rest.

Perpetual-flowering Carnations.—Encourage flowering plants by feeding judiciously, being even more careful than usual with the watering now that the weather is colder and dull. Keep the atmosphere buoyant with a touch of fire heat in the evenings. Fumigate occasionally and so keep green fly in check. Tying and disbudding must also be attended to, the latter being essential if the finest blooms are to be obtained. Keep batches of younger plants as close to the glass as possible so that the growths may be of firm and healthy texture.

The Hardy Fruit Garden.

Root Pruning. The time will soon be at hand to carry out this important work, so any trees showing an over-luxuriant growth, with resultant scarcity of crop, should be marked for attention

nearer the end of the month. If the work is carried out when the trees are in leaf they soon recover, throwing out new roots readily after the work is completed. Where the trees are young they may be lifted right out and the coarse tap roots pruned away with a sharp knife. Remove any other roots that may be damaged in the process. Where the soil is inclined to be of a cold, clayey nature, or sour, a quantity of good fibrous loam worked round the roots will be beneficial, and if stone fruits, add a goodly quantity of lime rubbish.

Storing Apples and Pears.—Gather in all early Apples and Pears when ready, laying aside any that are slightly damaged for immediate use. Where birds are troublesome, protect the fruits with netting.

The Flower Garden.

Border Carnations.—In districts unfavourable to autumn planting, the general practice is to pot up these layers and stand in frames for the winter. As the layers are now well rooted, no further time should be lost in carrying out this work. Where it is intended to plant out now, the beds or borders should be well prepared, working in plenty of leaf-mould and wood ash if the natural soil is heavy. Plant firmly and give every encouragement so that the plants may be established before winter sets in.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

NEW ORCHARDS FOR OLD

A plea to give old orchards another trial, rather than "scrap" them for newer plantings.

WHERE there is a quaint old country house to be had one is pretty sure to find an old English orchard, but the fortunate possessor is anything rather than enthusiastic if he desires the latter for a purpose more useful than its picturesqueness. He will survey his mossy-walled wilderness with a hostile eye and give orders for a general clearing out and an uprooting, without realising that by so doing he is making the worst error of his career as far as matters horticultural are concerned.

The question is: When is an orchard too old to be renovated and brought back to its productivity? Certainly not an orchard of fifty or a hundred years' growth. It is no exaggeration to say that at such an age it can be treated in such a way as to make it more flourishing than it has ever been before.

If a tree-stem is sound it is worth while, before uprooting, to try a few systems for bringing it back to full life again. First of all, get rid of that fatal orchard grass. Throughout America this is a primary axiom, but it has been the practice in old English orchards not to plough up nor even to hoe round the trees, and, as far as one may note, never to manure or prune. This policy may have suited the easy-going days of half a century back, but it will do no longer. The grass encourages pests, ages the tree unduly, stunts the growth of new wood and fruit-bearing branches and, consequently, diminishes the amount of the crop and the size of the fruit.

If owners would only plough their old orchards and keep them free from grass and weeds! If, further, they would overhaul the trees year by year, clearing out all dead and decaying wood and *prune* them generally, they would be delighted with the improvement in appearance and production. If the grass cannot all be spared, they should at least hoe 15ft. to 20ft. of soil round each tree at the end of winter, and re-hoe in the beginning of spring. It is possible to double the crops from old trees if they are given half a cartload of well rotted manure apiece after each hoeing and 6ozs. to 8ozs. of nitrate of soda on two occasions before the whole of the sap is risen. With such treatment, indeed, the amount of produce may be trebled and even quadrupled, with a much finer class of fruit.

Finally, to judge by the state of ninety trees out of a hundred in English orchards, scientific pruning is a thing unknown. There are, of course, many ways of pruning, such as thinning out the branches or pruning for wood or for fruit. An excellent method is to cut the upper part of the tree down if it is of a good class of fruit, allowing the tree to start fresh and form new wood. Or, if the fruit is not of good quality, the tree might be cut down to four or five short branches off the stem and grafted with slips of a good productive variety.

Old orchards are exchanged for new in the best sense of the term not by uprooting, but by renovation—a far more profitable course, a time-saver, and one involving far less risk of disease, than the formation of a new orchard on the old soil.

THOMAS MOULT.

The "Pop" Tree. An Adaptable Small Tree for all Gardens.—This is the children's name for the curious Bladder Senna or Colutea arborescens of our shrubberies—and a very apt and descriptive title, too. For, following the small heads of pea-like golden orange flowers that are produced all along every branch with the utmost freedom are clusters of "pops," or seed vessels, inflated with air that, when sharply pinched between the fingers, explode with a loud "pop." It is an excellent subject for culture in both large and small gardens, as it will grow into a small tree when left to its own devices; but, at the same time, by annually cutting back to within an inch of the old wood each spring, the plants can be kept within very moderate dimensions without sacrificing the natural shape and habit. Even large trees benefit by an occasional hard pruning, as this prevents the older wood from becoming brittle and breaking off in large boughs. Though so decorative as a free growing small tree, the Colutea is by no means despicable as a hedge plant and needs very little attention where so used. Cut back in winter fairly severely, especially at the base, so as to keep this well furnished with flowering branches, and then about twice during the growing season, and you will always have an orderly, neat hedge. The young growth commences early in April and very soon begins to flower and form "pops," continuing to do so right to the end of September. Even after the leaves are all down, the pods continue to hang on the branches and form a most decorative object through the winter, as, when mature, they become a silvery white. Young plants germinate in hundreds round the older trees, and there is never any difficulty in transplanting these.

Beautiful Woodland Plants.—Globe Tulips, in contradistinction to all other classes of the Calochorti, are woodland plants, loving the cool, moist shadows, where they flourish in a light porous soil, composed mainly of leaf-mould, the natural accumulation of previous years' verdure. Once planted, they can be left alone for many seasons without even the care of lifting and replanting. Formerly known as Cyclobothra, they produce one large broad leaf with an erect stem, carrying from six, to twelve pendent globular flowers in white, pink and golden yellow. Suitable nooks can usually be found for them in the rock garden and very charming they look here, too, while equally congenial quarters are provided beneath the more thinly planted fruit trees, etc. Varieties are not numerous, Albus being a good white, with finely fringed flowers. This is sometimes known as the Fairy Lantern and reaches a height of 12ins. to 16ins. There is another very fine white known as The Pearl, but this is difficult to obtain and much more costly. Amœnus is rich pink and Amabilis golden yellow. Plant a few of these in your garden this autumn and you will certainly be pleased with them, for they are the most reliable as well as the easiest of all the Calochorti to grow. The Calochorti were introduced into this country by Douglas from N.W. America.

A Neglected Annual.—The fragrant Tobaccos have found much favour with gardeners in late years, chiefly owing to the introduction of colours other than white among their flowers, but nevertheless there is one pure white species of Tobacco that has a superiority over the more popular sorts, and which is sadly ignored, and that is Nicotiana sylvestris. It has several advantages over the other kinds, one being the fact that its long tubular blossoms do not close up in the daytime—the flowers of other Tobaccos have this serious defect. Another excellent feature of this species is its usefulness as a "specimen" plant. It can be grown as a single plant or in clumps of six, in a small bed on the lawn or isolated in the border. Its very large leaves and tall spike of blossoms impart quite an exotic appearance to the plant. It requires plenty of room when thus grown and should never be crowded in with other plants of the border. It can, however, be used with gorgeous effect grown in massed formation, as a separate item in the border scheme. Even here it must be given plenty of room. It is quite easily raised from seed, which should be sown as early as possible in gentle heat. On no account should the seedlings be allowed to become drawn. They must be pricked out at the earliest possible moment and thereafter kept quite close to the glass. Harden the plants off during May and plant out in June. N. sylvestris may be grown to a large size for specimen plants if shifted from pot to pot as growth proceeds. It may also be kept in a large sized pot and sunk into the grass of the lawn, where it is very effective.

An Accommodating Shrub.—Viburnam Carlesii is, no doubt, the most delightful of all the Viburnums, and it deserves to be represented in gardens by several plants, some to be grown in the border or rock garden, and others to decorate the cool greenhouse. During early March it produces a fine display under glass, and under such congenial conditions the wax-like flowers are pure white and the potent fragrance of the blooms very pronounced. This fragrance renders it a gem of the first water. After flowering the plants are kept inside for a few weeks. They are fed meantime with liquid manure or some fertiliser, and afterwards removed to the plunge-bed outside to mature and consolidate the season's growth. Here they can remain until it is thought desirable to return them to the cool greenhouse, but they will, during the summer months, require copious supplies of water at the roots. Plants out in the open once established need little or no attention. They form deciduous shrubs of a rather loose habit of growth. When the flowers first expand in April they are pinkish in colour, but with age they become white. The species is a native of Corea, first introduced to this country in 1902. It has since been freely propagated, and cuttings will root readily at this season if placed on a mild hot-bed. Judging from its behaviour so far, it will prove hardy in most localities.

THE GARDEN

No. 2601.—Vol. LXXXV.]

NOTES OF THE WEEK

[September 24, 1921.

A VARIETY of happenings which have recently come under our notice have driven us to think very seriously as to the position and prospects of the British bulb industry. If not a "key" industry, this is a very important one, and one of which high hopes have been entertained. It has since its inception made steady, if slow, progress. It cannot be too widely known that British-grown bulbs reach in general a very high standard, and that home-grown Narcissi and May-flowering Tulips have an excellence unattained and probably unattainable elsewhere.

Sweet are the Uses!—It is very dispiriting, therefore, to find how strong a push the Netherlands growers are making to repossess themselves of the British market, and how feebly the native industry, as a whole, seems to be fighting the aggressors. We say "as a whole" advisedly, for there are a few purposeful and business-like firms who are putting up a good fight on their own account; but two or three or even half a dozen swallows cannot be said to constitute a summer! The Dutch are a quiet, law-abiding, methodical people, of a temperament more nearly approximating to our own than that of any other Continental nation. We wish them as a people all possible prosperity; but charity begins at home, and in these days of stress, more especially, we cannot afford to allow them to dispossess us of our home market. The war assuredly hit the Dutch bulb grower very hard, and if even his philosophy cannot persuade him to regard adversity as useful, he has at any rate allowed it to act only as a spur to further endeavour and, believing whole-heartedly in the uses of advertisement, has made, and is making, a more strenuous assault on the British market than he has ever attempted before.

A Regrettable Mistake.—One cannot refrain from thinking that those British firms who exhibit Dutch bulbs at our flower shows on behalf of the growers, even, be it noted, at the meetings of the Royal Horticultural Society, are, unconsciously in all probability, "selling the pass." The horticultural trade should always bear in mind that in the long run the prosperity of trade in general will help each industry in

THE NEW, ALMOST WHITE, NARCISSUS THE PRIME MINISTER, WHICH IS BEING LISTED FOR THE FIRST TIME THIS AUTUMN

of the horticultural trade as a whole will, in the end, react favourably on each individual branch and business. It is well for all of us occasionally to turn deliberately aside from the details and intricacies of the particular business which so fully occupies our daily thought and so completely dwarfs our general outlook to try to envisage those larger issues on which will ultimately depend the success not only of our business, but of all businesses—yea! even the success or, it may be, the very existence of the British peoples! So much for the "Trade." But the mistake to which allusion is made in the heading of this paragraph is not one made by busy men in the heat and toil of business endeavour. The Royal Horticultural Society thought fit to invite entries of British-grown dry bulbs for the last meeting in August. Entries were not numerous; not nearly as numerous, in fact, as they should have been, but the bulbs shown were of superlative excellence, and it was assuredly a grave mistake to withhold the gold medal which was so well deserved and which to the public at large would have symbolised the exceptional merit of, and, as it were, "hall-marked" the home-grown article. How may one criticise the short-sightedness and narrowness of vision of firms admittedly absorbed in their own particular and allotted tasks when the Society which purports to represent British horticulture and which has, in fact, a large, representative and increasing membership, possessing, too, almost the status of a public body, combines in this way near-sightedness with a lack of imagination absolutely startling?

Some Suggestions.—Criticism is of little use—indeed, it is oft-times worse than useless—unless constructive. There are undoubtedly a large number of relatively small growers to whom effective advertisement (and the word is used in its widest sense) represents an item too large in proportion to turnover. They must consequently either advertise inadequately or not at all. How can they in such circumstances expect to hold a corner against the big Dutch growers, much less possess themselves of and retain against all comers the market which should be theirs? Could they not, without in any way losing their individualities, arrange a co-operative system of sale and advertisement such as, in a comparatively small way, appears in this very industry to be working well in one locality? Bulbs would, prima facie, seem to be easier commodities to deal with co-operatively than either butter or cheese, which are, we know, so handled with marked success. Again, since, unless prohibited, the invasion of British flower shows by foreign cutflower is likely to continue and even increase in extent, would it not be well for British firms exhibiting cut flowers from home-grown bulbs plainly to label them "British grown"? Advertisement in the Press too would [illegible]

GARDEN PATHS in VARIOUS MATERIALS

"Look on this picture and on this!" As well as being a necessary feature, the garden path should do much to enhance the general effect. Nearly all beautiful garden pictures include either a path or an informal vista, which serves the same purpose.

THE two photographs of herbaceous borders at Barham Court, Kent, are instructive from two points of view. They serve to give point to a little homily on the effect of time on the garden, and they show the purpose and ultimate effect of a turf herbaceous walk, edged with paving stone.

The designer of this path and borders, which look so uninteresting in the first photograph, must have envisaged the finished result shown in the other picture. This power mentally to focus the completed result is essential in designing gardens It is unsafe to deviate from established practice unless one possesses it. Everyone can of course produce a mental image of what they have seen The pictures then are a reminder of the necessity when planning alterations or extensions, and to an even greater extent, when laying out new gardens, of visualising not only the effect immediately or perhaps one season after completion, but of envisaging the result when Nature, with what assistance we can offer her, has had time to complete the finished picture.

In the photograph, as far at least as the borders and paving are concerned, the picture is finished,

NEWLY FORMED HERBACEOUS BORDERS AND PATHWAY AT BARHAM COURT, KENT.

THE SAME HERBACEOUS WALK FOUR YEARS LATER. THE PATHWAY IS, IN FACT, HARDLY WIDE ENOUGH FOR THE BROAD BORDERS.

but it easily may happen that the completion of the picture may take a far greater time. This will be especially evident in the case of shrubberies which take time to reach perfection, but which it is very desirable so to plant that immediate effect may be obtained. It is, however, very regrettable when, as is too often the case, the beauty of the completed picture is sacrificed for immediate effect. There is a saying well known in the fruit counties, "He who plants Pears, plants for his heirs"; and the same may be said, as far as the eventual effect is concerned, of the planting of ornamental groups of timber and to a smaller extent, of shrubbery borders.

The effect of borders properly planted to paving is entirely different from such borders fronting to greensward. The effect to be attained where paving stone is employed is that of mounded masses of herbage flung carelessly across the paving and of spreading patches of carpeting plants and tufted clumps of Campanulas and what-not springing from among the stones themselves. Lawns and turfed walks on the other hand must be kept close shaven to be effective and to that end their surface and their verges must be kept clear of plants so that machine and edging shears may have a clear field of operation. The former treatment is more picturesque, but the green of the grass walk is very dear to the eye, so that it is becoming a common practice to combine the two as shown in the photograph, a glance at which will demonstrate that though, æsthetically considered, such pavement serves an admirable purpose, it does not provide a dry path in wet weather. Another point worth noting is that the paving ultimately contributes little to the apparent width of the path, so that it should rather be deducted from the width of border required than from the width of the path when planning. Paving does not break up greensward in the way that gravel does, so that it is generally used where a dry way must be provided across what one would have liked to be a continuous stretch of lawn. For the same reason, grass paths in the flower garden often have a paved track down their centres to ensure dry-shod passage in all weathers. This, naturally, produces an entirely different effect—as it serves absolutely different purposes—from the grass vista with paved edges. This last is suitable only for straight herbaceous walks or, possibly, for those of segmental or curvilinear form where the path is kept of even width. For less formal vistas, with approaching and receding banks of shrubs and flowers which, well designed, are so entirely delightful, grass must be used, slightly "dished" where possible so as to form a more or less sunken way between the mounds of greenery on either hand.

The gravel path, if of good colour and properly and intelligently used, is at once practical and beautiful. It

EVEN WHEN VERY EXTENSIVE, AS HERE SHOWN, PAVING DOES NOT "BREAK UP" GREENSWARD AS GRAVEL WOULD.

addition of a grass verge on each side and where it edges on one side a lawn, a grass verge on the other side though, at need, but a foot or so wide will preserve the continuity of treatment and give the whole space an appearance of greater size. These remarks will apply in their entirety to that "bigger sister" of the gravel path—the entrance drive. If the verges here can be managed less formally so as to vary in width and, here and there, a break in the shrubbery can be made to disclose a pleasing picture of shrub and lawn, so much the better.

THE GRASS WALK AT ITS BEST.

If a dry way were required after rain or when the dew is on the grass, informal set-pieces having laid down the centre would look best.

Garden Notes from a Western Seaboard

By SIR HERBERT MAXWELL, BART., F.R.S., V.M.H.

THE glistening racemes of clear yellow berries borne by Coriaria terminalis are among the surest heralds of autumn, and would afford one of the chief ornaments of that season, if only the birds would accept the assurance of botanists that, despite their resemblance to glorified Currants, they are deadly poison! The birds know better, and although this season, for some unknown reason, they allowed the juicy clusters to hang untouched for ten days or so, the fruit on three bushes growing on a steep bank all disappeared in a single night. C. terminalis is far the handsomest of the genus, owing, not only to the superior brilliancy of the berries, but to the fact that the racemes are carried at the end of the branches, whereas, in all the other species, they are axillary, and consequently not so conspicuous. The genus Coriaria (so named from the Latin "corium," leather, owing to the use of the roots in tanning), differs structurally so far from all other plants as to constitute by itself the natural order of Coriariaceæ. Its chief characteristic consists in the formation of its fruit. So soon as the inconspicuous flowers are fertilised, the minute petals begin to swell, enveloping the seeds in a lustrous, succulent envelope, thereby entitling C. terminalis to a choice sunny corner of the garden.

The brightest thing in the rock garden just now —September 3—is Silene Schafta, a little Russian alpine, which throughout August has been one mass of bright rose blossom. It ought not to be reckoned rare, for it came to this country in 1844, and is an easy doer; but I do not happen to have met with it in many gardens. Although it sows itself about, the tufts increase slowly in size, and it is not until it has been established for several years that its full value as an autumnal flower is realised.

Another autumnal treasure, of very different habit and stature to the Silene, is Cynara Scolymus, the wild form of the Globe Artichoke. The hard, prickly involucre bears but faint resemblance to the sapid flakes to which cultivation has reduced it; but it forms a fine setting to the splendid blue-purple flowers which are freely produced at this season and held aloft at a height of 5ft. above the beautifully sculptured silvery foliage. I have never seen it mentioned in any nurseryman's catalogue. We got our plant from the Chelsea Physic Garden many years ago. Give it plenty of room to develop and everybody who visits your garden at this season will ask what it is, just as they did about Allium sphærocephalum a month ago, with its crimson globes, beloved of bumbles, set on slender 3ft. wands that the heaviest rain may bend, but cannot break. It is surely the quaintest of the Onion family.

We are taking account now of the results of a double event, viz., the cold and wet of the summer of 1920 and the heat and drought of that of 1921. Among the effects of the former may be noted that Xanthoceras sorbifolia, that sun-loving relative of the Horse Chestnut, produced not a single spray of blossom, and Lycoris squamigera, usually very free of September bloom, has done no more than send up abundant foliage in June. On the other hand, the baking experienced during the past summer has surprised some spring-flowering shrubs into untimely display. Rhododendron nobleanum, which usually starts early in November, carries several rosy trusses; R. hæmatodes vies in blood-colour with Gladiolus princeps; a certain hybrid of R. Thomsoni is well set with flower, and Bryanthus empetriformis was almost as gay a fortnight ago as it was in April.

EUCRYPHIA PINNATIFOLIA AT MONREITH

All gardens are familiar with the tendency of many flowering trees and shrubs to make their best display in alternate seasons. The reaction from abundant blossom in one year is usually shown by less profusion in the following one. But there are some shrubs that no amount of effort appears to enfeeble. Eucryphia pinnatifolia, for instance, where it is happy, fairly hides its foliage with milky blossom year after year. I regret that the accompanying photograph was taken a week before the plant was in full blow. The only fault of this beautiful Chilian shrub or small tree is that the flower is so fleeting, the display endures from first to last, but a fortnight. And how the bees touzle it during that time! E. cordifolia, on the other hand, beginning just as the other finishes, continues to flower until stopped by the first frost.

There are few genera which diverge into such extravagantly different forms as do the Knotweeds —Polygonum. Between the extremes of the 8ft. P. Sachalinense, with huge leaves and irrepressibly vagrant, and the lowly P. vaccinifolium which, crouching closely to the rocks, mimics a heath with its pretty spires of pink blossom, there are many herbs which require close scrutiny to recognise as belonging to the family. Among them none is more quaint than P. equisetifolium, a veritable freak plant, whereof the clump of 3ft. slender stems are easily overlooked or mistaken for a Rush, until in autumn they become studded for half their length with minute white flowers, faintly veined with pink. The stems are jointed after the manner of a Horse-tail, with a few lanceolate leaves half an inch long, closely adpressed.

Red Admiral butterflies are late of appearing this year; hardly any came on parade before the first days of September—too late to partake of their favourite feast on the purple tassels of Buddleia. Their absence was partly atoned for in August by the Painted Lady (Vanessa cardui), an insect of very uncertain appearance, being totally absent in some seasons, but very frequent in others, as it has been in this one. A smaller butterfly than the Red Admiral and swifter in flight, the ornamentation of the wings is very similar, except that the brilliant scarlet of the Admiral is replaced by buff-orange.

THE CHOICE BULB BORDER

The idea of a bulb border devoted to the culture of a choice selection of some of the less grown bulbs is worth consideration now that so many lists are being made out in preparation for next spring.

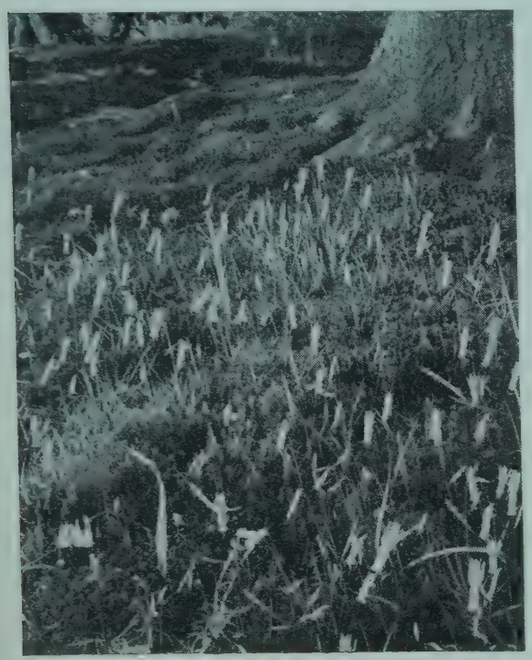
SUCH a border—if planned and planted with consideration—would prove a source of never failing interest through all the months that the garden is enjoyable, from early spring to latest autumn. Indeed, there need be no month in the year when it would be devoid of flowers, if the selection were made with this end in view. There would be bare and empty spaces during summer, of course, where some of the earliest flowering forms had ripened off their foliage. That is happening, however, in every mixed herbaceous border in the land and the same compensation would exist—something unusual, something beautiful, something the "other man" does not know, flowering cheerily. Have you caught the idea?

A long narrow border all to itself, part of it exposed to the hottest and most intense sunshine that shines, part of it in cool semi-shade, so that varying needs can be met and accommodated. A portion, filled with almost pure sand can have the sharpest drainage; a length may be composed of fibrous moist loam, and another be of a peaty, leafy character. Given that as a start, what a unique and charming effect might be ensured by broad searching and clever selection, by thoughtful combination and the best use of the almost limitless material.

Nothing that is not attractive need be admitted simply because it is rare. On the reverse side, nothing that is beautiful, but familiar, should be

included. Even a really tiny garden might have its bulb border that was as crammed with floral treasures as one running into many yards, if small and compact growers were planted.

Among the earliest varieties to bloom, would be some of the lovely Crocus species, though, perhaps, one would be more correct in speaking of these as



NARCISSUS CYCLAMINEUS AS NATURALISED.

late rather than early, as they begin to bloom before Christmas. Uncommon little Iris—such as persica, alata and reticulata—follow hard upon their heels. Then the wonderful miniature Narcissi, such as Bulbocodium, juncifolius, triandrus, cyclamineus, and hardy Cyclamen, take up the story, followed by Fritillarias, Muscari, Alliums. The various unique Tulipa species, carry us well into the merry month of May. After the great wealth of spring, one might be disposed to expect that there would be somewhat of a slackening off of the floral treasures, but experience, backed by wise selection, keeping continuity of flower in view, will prove that this is not so. May is gay with Calochortii, Brodiæas, Romuleas, Sparaxis, Ixias, etc., that, while uncommon, afford a feast of generous colour. And so it is through all the summer, with an uninterrupted succession of Anomathecas, Oxalis, Gladiolus, Brevoortias, Tigridias, and so forth, until autumn when still greater wonders are displayed in the Tritonias, Sternbergias, Zephyranthes, Amaryllis Belladonna, Watsonias and Tigridias. In the dull days of October, some of the dainty little hardy Cyclamen, Scilla autumnalis, Schiozostylis coccinea carry us into the depth of winter. Some of the above genera sound as very familiar names it is true, but it will be found if reference is made to a reliable list, that there are many rare and precious examples among them that are entirely unfamiliar to the average garden owner and it is on these that attention should be concentrated for the bulb border.

Take the Gladiolus for instance: one would not, of course, include hybrid sorts or the common brenchleyensis, but splendid clumps are assured in June by planting great masses of G. byzantium with its brilliant wine red flowers, or G. primulinus, a lovely thing with hooded flowers of pale primrose yellow on stems 2ft. or 3ft. high all through July and August. It is the same with the Fritillarias. Aurea upsets all ones preconceived ideas by appearing in a rich golden yellow skirt, mottled inside with brown. Coccinea is bright red with prettily recurving petals. Ruthenica bears drooping bells, on foot tall stems that are almost black. Among Muscari, mention must be made of M. plumosum (The Feather Hyacinth), which bears feathery violet plumes of marvellous construction. These are not really flowers at all, in that they carry no reproductive organs, but consist of a mass of twisting tendril-like stalks that are highly coloured. M. comosum is another unusual species, bearing normal flowers of deep blue along two thirds of the length of the spike, which however terminates at the tip in a tassel-like effect.

Seek and one will find that almost every genus of bulb contains among its species something that is worth procuring and adding to the border of beautiful and unusual bulbs. Seek further through a really representative list and it will possibly come as a surprise to find how large the number of which one hardly knows the names. These are the things that raise the garden above the common level and add distinctive interest, and—be the bulb border large or small, it may safely be promised that it will afford an endless amount of material for appreciation and for discussion with other enthusiasts.

Many bulbs that are commonly considered difficult to grow, coming as they do from such different climates as South Africa, Argentina and California, can be successfully managed when a border such as that described is beneath the south wall of a greenhouse or when it is raised well above the level of the surrounding ground. To arrange such a border, the natural soil should be taken out to a depth of 6ins. and filled up level with broken brick ends. Over this place a layer of smaller pieces and build up the front with rock to a height of 2ft. or so and fill up level with a mixture of equal parts of loam and sand. In this can be planted with confidence anything that needs a long season of hot drought to ripen off the bulbs after flowering and so ensure their flowering freely the following year. Bulbs for this raised bulb border would consist of a far more specialised collection than would those for a general border on the level.

CROYDONIA.

AGAIN WHICH? THE TULIP ORDER

Selections of Tulips for growing in pots and out of doors, and a few words about forcing. A new use for the Darwin varieties.

FROM a garden point of view the great event of the past blood-stained years has been the development of the habit of growing Darwin Tulips in pots. The bulb growers of Holland are a very practical and thorough community and have tested the behaviour of pretty well every variety under glass, so now, thanks to their experiments, we know which varieties are the best for this purpose. I believe I am correct in saying that it was a lucky accident which opened their eyes to the possibilities of growing Darwins under glass; anyhow, it came as a surprise to find how amiable so many were to this treatment. Experiment has proved an old variety, William Copland, now called Sweet Lavender, to be the best of all for this purpose. On January 4, 1914, I received from Messrs. de Graaff Brothers of Leiden a few excellent blooms, which lived a week in my study. Heretofore, I had not imagined such a feat to be possible and I expect William Copland rubbed its eyes, too, to find how popular it had become "all of a sudden," among the bulb growers of Holland. Darwins in pots are now a practical proposition, but for the sake of those who are not very well up in gardening matters, it is necessary to say that they need more care and management than the "early" section, if they are to do well, and no one except those with every facility at hand and with much experience in forcing should attempt to have them in bloom in January. Even "early" varieties are difficult to manage if flowers are wanted in this month unless a little gentle bottom heat is available and unless in some way they can be drawn up by heavy shading. There is all the difference in the world between producing blooming plants in the second week in January and in the first or second week in March. For the earliest flowers we must go to the Duc Van Thols. These small-flowered dwarf growers may be had in several colours, but the most popular and the one I recommend is the scarlet. We now come to the "early-flowering" section. The following are good single varieties with naturally fairly long stems that anyone with an ordinary cool greenhouse may rely upon. Vermillon Brillant (scarlet), Prince of Austria (orange-scarlet), Fred Moore or Thomas Moore (orange), Prince de Ligny (yellow), Molière (purple) Keizerskroon (red, edged yellow), Jenny (deep rose, dwarfer than the others), Rose Tendre (white and deep pink), Pottebakker White (pure white), Mrs. Elwes (purple, edged white), De Wet (ruddy orange and yellow), and Admiral Regniers (white and red striped). This last is reminiscent of the Tulips of the mania time (1635–37), and might be tried by anyone who wishes to have an idea of what the flowers of that famous period were like. Mrs. Elwes is a relic, too, of an old type, the "Lacs." Double "earlies" are very useful in pots because they last in good condition longer than the singles, but they should not be hurried into bloom. The following is a small selection. Murillo (white, tinged pink, very popular), Schoonoord (pure white), Salvator Rosa (rosy and white), Safrano or Tea Rose (very lovely primrose, often flushed with red), Couronne d'Or (orange and yellow), Tournesol (red edged yellow), and Vuurbaak (scarlet). We now come to the Darwins which, as I have already said, are excellent in pots if they are not hurried too much, but are allowed to flower from early March onwards. William Copland (lavender to deep mauve, depending on its degree of earliness), Jefferies (rich cerise), Maiden's Blush (pink), Fra Angelica (maroon-black), William Pitt (deep cochineal-red), Pride of Haarlem (cerise), Erguste (mauve), Sieraad van Flora (rosy-pink), and Pomona (soft red). As a rule the less stiff Cottage varieties do not lend themselves to forcing. There are however, exceptions, among them being Inglescombe Pink (pink, flushed lavender), Cassandra (rich rose), Orange King (orange), Zany (straw and cerise stripes, exceptionally good), Emerald Gem (coral red), and John Ruskin (blend of orange, soft rose and mauve).

There is a wide choice among the "big three" sections of "early-flowering," Cottage (including breeders), and Darwin Tulips of good varieties for out of doors. If I were about to make a selection for a friend I would ask: "What's your fancy in the way of colour?" or "Which varieties have you already got?" or "Do you prefer quality or quantity?"; that is supposing he names the sum he wishes to spend and leaves the selection to me. I would then have something to go upon whereas now I have nothing to guide me but my own individual preferences. We all have our favourite [illegible]

frankly my own. Six "early-flowering" singles: Prince of Austria (orange-red); were I limited to have but one variety in the garden, this would be the one; De Wet (pale orange), a wonderfully fine sport of Prince of Austria; Vermillon Brillant (scarlet); Prince de Ligny (yellow), a happy association of the name of a famous gardener with a grand Tulip, and it is in my opinion *the* yellow for beds; Coleur Cardinal (deep crimson); Pink Beauty (bright rosy-pink and white); in a mass it is wonderfully bright and fresh looking; and Le Reve (pale rose suffused orange and lavender), a lovely colour, but one as impossible to describe as to say whether it should be classed with the early section or placed among the May-flowerers. There are a whole lot more that I would like to put down but, "taking one consideration with another," I had better leave well alone. Instead of six I will give twelve Cottage and twelve Darwins, to mark their greater importance in garden decoration. Cottage varieties: Boadicea (rich mahogany red, edged orange), a grand Tulip, every one should try it; Louis XIV (deep rich purple, edged bronze); Marksman (bright scarlet); Prince Albert (the best browny-yellow); Rose Beauty (tall rose), a very lovely shade; Gesneriana major, syn. Gesneriana spathulata (rich cochineal-red); Inglescombe Pink (mauve-pink), a most taking variety; Illuminator (yellow-edged and flushed scarlet); Prince Charming (coral-red, suffused orange); Orange King (orange); until The President is more plentiful the most orange Tulip in cultivation; Moonlight (pale yellow); Mrs. Kerrell (amber-pink). This is a "good-bye" Cottage Tulip and a jolly good one for the purpose. You feel, indeed, sorry they are over. The sight was so pleasant for the eyes. In summing up my choice of Cottage varieties I ought again to repeat what I said about the six earlies, *à la* compiler of the Books of Kings and his monotonous refrains on the lives of those who followed Jeroboam on the throne of Israel, but will readers please supply the omission. My dozen Darwins are the following: Farncombe Sanders (beautiful cochineal-red), Prince of Haarlem (cerise), Clara Butt (pink), Faust (purple-black) a magnificent dark variety, Aphrodite (soft rose), The Bishop (violet-purple), Teddy (a glorious dark scarlet), Prince of the Netherlands (rosy-red), Edmée (rosy pink, edge blush), Bleu Aimable (taking shade of pale lilac), Oliphant, syn. Elephant (immense slaty blue), and Eclipse (chestnut-red). Again, please imagine I take my cue from the compiler. So far I have not alluded to the fast growing section of Rembrandts (or rectified Darwins), or in fact to any striped varieties. There is no doubt they are not popular at the present time. Mr. Bentley, Mr. Needham, and Sir A. D. Hall have to plough lonely furrows; the exquisite blooms that they show at the Tulip meetings of the Royal Horticultural Society the general public pass by on the other side. Even sentiment fails; and it is nothing to modern growers to know that for two centuries and a half their ancestors grew nothing but such striped or "broken" varieties. "Let the dead bury their dead," they seem to say; so nothing will do for them but the selfs. Still I cannot close without mentioning four that to me appeal whenever I see them. (1) Zomerschoon, a truly delightful combination of salmon-rose and creamy white. It is probably the oldest variety in cultivation and still one of the most beautiful. (2) Do-Little, a rose and white striped long, egg-shaped bloom, delightful for cutting. How beautiful a vase of it looked when I was, this spring, a prisoner in bed! Once upon a time it was thought very highly of by the florists; with them it is now a back number. I am glad this cast-off has been saved, for although of no particular merit in the border, its blooms are A 1 for cutting. (3) Prince Hendrick, white with violet markings down the centre of each petal. There is a peculiarly pleasing look about this flower, but like Do-Little, its day as a "show" flower is past. It belongs to the period of Sweet's "Florists' Guide," in which there is a plate (Vol. II, page 161), of a very similar English variety—Holmes's King. (4) Zany (straw and cerise striped) is a real beauty in pots. When Mr. E. A. Bowles first saw some good pot-grown specimens he forthwith got out his paint box and painted them—a very high honour. I wish I knew its history; I only know that my getting hold of it proves the truth of the old adage, "everything comes to him who waits." Perhaps Mr. Dykes will tell us about the garden uses of species Tulips? It would be nice if he would.

JOSEPH JACOB.

EFFECTIVE USE OF THE MAY-FLOWERING TULIP.

THE ODONTIODAS

This valuable hybrid race of cool-house Orchids is in no way difficult to grow.

THERE are several bigeneric hybrids among the Orchids, and the Odontiodas, which are the result of uniting the genus Cochlioda with that of Odontoglossum, are probably the most popular. The object was to obtain a flower similar in size and shape to the Odontoglossum, with as much red as possible from Cochlioda Noetzliana, which has bright orange scarlet flowers. The results have been most encouraging, and, in fact, the "scarlet crispum" so often referred to by Orchid-growers is almost acquired. It is nearly ten years since the first Odontioda appeared, and probably no hybrid Orchid ever created such a sensation as did O. Vuylstekeæ, which M. Vuylsteke raised from the intercrossing of Odontoglossum Pescatorei and Cochlioda Noetzliana.

So much interest is now taken in Odontiodas that no amateur who possesses a cool house ought to be without a few representatives of this bright and showy group. Some of the most noteworthy and fairly common sorts would embrace the one named above, also O. Charlesworthii (O. Harryanum × C. Noetzliana), a magnificent acquisition, with ruby crimson flowers; O. Bradshawiæ (O. crispum × C. Noetzliana), O. Cooksoniæ (O. ardentissimum × C. Noetzliana), O. Lambeauiana (C. Noetzliana × O. Lambeauianum) and the brilliant O. Chanticleer (O. Cooksoniæ × C. Noetzliana), all of which possess a certain amount of red. O. Devossiana is derived from the purplish mauve Odontoglossum Edwardii, and stands alone so far as colour is concerned. The flowers are also smaller, but are more numerous, and a large branched scape produces a fine effect. The above are only a few of the good things to be found among the Odontiodas, while many more will be eventually produced, for, in addition to Odontoglossum, Cochlioda Noetzliana has been successfully linked up with the genera Oncidium and Miltonia, being known as Oncidioda and Miltonioda respectively.

Cultural Details.—The Odontiodas are not difficult subjects to grow if they receive similar treatment and the same structure as Odontoglossum crispum and its allies. The flowering period is practically the whole year round,; consequently the repotting will need attention at almost any time, providing root action is evident, and excepting the winter months. A suitable compost consists of Osmunda fibre, Polypodium fibre and sphagnum moss in equal parts, which should be cut up in about inch lengths and thoroughly mixed a week or so before it is required. Large pots are not advised, for overpotting is sure to be detrimental to the plant, especially where the watercan is used rather freely. I prefer a receptacle

hat will comfortably take the roots and provide nough space for the development of two pseudo-ulbs. This, of course, means that the plant will o two seasons without disturbance at the base, ut after two years the compost becomes ex-austed. One of the chief causes of failure is wet, ecayed soil, which is often permitted to remain bout the roots, and thereby brings about disaster. mple drainage is needed, and the soil should be ade firm around the base of the plant. After he repotting is finished give a good watering to et the whole of the mixture; then very little water ill be needed for the following six weeks, but he surroundings must be kept moist by occasionally lamping the floors and syringing between the pots.

When any repotting is done during very hot weather, an Archangel mat should be added to the ordinary blind or shading till the plants show signs of recovering from their recent disturbance. Where the plant is small and healthy, this only means moving it into another pot two sizes larger; but if the roots are decayed, then a thorough overhauling is necessary, and a little more care must be exercised to bring it back to its normal condition. Regarding temperature, ventilation, shade and watering, it is the same as for Odontoglossums, and if thrip is kept down by spraying or fumigating, the amateur will be rewarded with a display of showy scapes, which form a pleasing contrast to the chaste Odontoglossum crispum. SENTINEL.

PEARS AT MOUNTON HOUSE, CHEPSTOW

The Pear, the trained Pear especially, is worthy of a much better site than is usually allotted to it.

PEARS are fruiting very irregularly this season, for the promise afforded by abundant bloom was frustrated by the May frost except where favourable situation mitigated its dire effects, as it did on one of the walls here. There is surely no more dignified and agreeable dressing to wall or building than a full grown and well trained Pear tree. The fine formal outlines of stem and branches look well in winter; in spring the clusters of white bloom are admirable among the fresh foliage; the growth and maturing of the handsome fruit through the summer is a present joy and a sustained expectancy. This pertinent combination of the utilitarian and the æsthetic was always well understood by the French and by them Pear trees are given no back place. In England, however, they have seldom been deemed fit for good company, and such ill-behaved and aggressive idlers as Ivy and Ampelopsis are too often set to obliterate the architectural lines of house fronts and pleasure garden walls. In many a place it is a relief to the eye to get to the stable yard or barn side and there find ancient, rugged-trunked Pear trees with their multiple, many-tiered arms stretching out horizontally over, but not unduly concealing, mellow expanses of weathered stone or warm brickwork. How well they consort with more aristocratic surroundings we realise at Powis Castle, where they occupy certain sections of the lofty walls of the steeply hanging, architecturally treated terraces.

At Mounton House for the space of some 60yds. the drive, as it approaches the house, runs between broad bands of grass, backed by high stone walls that buttresses divide into panels. Each panel is given to a Pear tree horizontally trained, and perhaps the handsomest, as an example of growth, is a Uvedale's St. Germain that fully occupies its panel 24ft. long by 10ft. high with its clean, vigorous dark green foliage, amid which hang its great fruits quite 6ins. long, green in general tone, but with their outward cheek taking a ruddy hue under the late summer sun. Thus, even this year, when they are only seventeen in number, they make their presence felt, although not in the same manner as their smaller but much more numerous neighbours. The Uvedale is one of the trees on the wall which faces south-west and which afforded valuable shelter at the moment of setting. The opposite wall, facing north-east, is almost bare of fruit except for a Beurré Diel, which managed to save a modest crop. But the

of plenty. Even after a June thinning the Pears have hung in rows or clusters along the boughs of most of the trees. A Nouveau Poiteau, although occupying no more than a 16ft. width of its panel, carried 160 fruits of size that neither numbers or drought appeared to lessen. Here, too, and carrying an equally full crop, are the Bergamotte d'Esperen and the Beurré Rance, of which branches are illustrated. The Bergamotte is almost the most regular bearer there is here, where the fruit crop is rather uncertain, and not a few varieties of Pear so often decline to give any return that the executioners' axe is brought into requisition and another Bergamotte is set in their place. It is not only a late Pear, ripening in the first days of the new year when fruit is rare and desirable, but the proverb *il faut se lever la nuit pour manger la poire* does not apply to it. Neither does the whole batch mature together, nor does each fruit rush headlong in and out of condition. Any day and hour within a week is likely to find it juicy, melting and fine flavoured. It is a fat, green, freckled little thing, often no more than 3ins. high and yet 9ins. in circumference, and hangs in clusters along the boughs.

Only along this south-west wall is there anything like a Pear crop this year. Two walls to the south-east, having such varieties as Marie Louise, Louise Bonne of Jersey, Conference, Souvenir du Congrès and Pitmaston Duchess, brought in no more than a modest basketful from along their whole extent, while the pyramids lining the central kitchen garden walk were, for the first time since they came into bearing nine years ago, without a fruit. H. AVRAY TIPPING.

BERGAMOTTE D'ESPEREN, A LATE PEAR WHOSE FRUITS DO NOT ALL MATURE TOGETHER AND WHICH BEARS REGULARLY.

A VALUABLE LATE PEAR, BEURRE RANCE

Autumn Flowers in the Rock Garden

Some Notes on a Topic of General Interest.

CONTRAST the rock garden now with the same scene as viewed in April, May or June. Then, one was almost bewildered by the glorious colour picture spread before the eyes in such lavish, almost too lavish, profusion. Saxifrages, Primulas, Aubrietias, Phlox and many other families jostled one another in the race, and now, though there may be plenty of contrasting foliage, there is hardly a flower to be seen and the rock garden by comparison with other parts appears singularly bald and uninteresting.

Can this state of affairs be changed? Can we borrow from the spring or rather, substitute other plants that will flower now. Yes! By an almost unnoticed reduction in the flood tide volume, one can have a very respectable display even as late as this, a display, too, comprising both vivid colour and interest.

Let us take a stroll round and glance at some of the most attractive plants now in flower, making notes of height, colour, etc., for the redemption of any flowerless places we may possess in our own gardens.

Anthemis macedonica, though it has been flowering since the end of July, is still a good plant, reaching a height of 6ins., with deeply divided silvery foliage. It requires a well drained position in gritty soil in fullest sunshine and bears its large white daisy-like flowers profusely.

Unusual bulbous flowers are, in autumn, especially pleasing, and Allium cæruleum, a Siberian species with large heads of blue flowers, properly placed, always does well. The stems are a foot or so tall and the heads very lasting. Speaking of bulbs reminds one of the little grown Scilla autumnalis japonica, which produces its dainty spikes of rose pink flowers now, instead of beside its brethren in spring. This will grow almost anywhere, but never looks better than where nestled against the base of a stone and jutting out into the path, for this not only brings the flowers right before your eyes, but enables them to be examined closely. A delightful little Aster that we may well allow to stray from the border into the rock garden is acris nana, a dense compact grower never exceeding 1ft. in height and smothered with masses of lilac flowers for weeks and forming a most effective bush.

North America provides at the present season an especially interesting plant in Callirhoe linearriloba. It is an easy plant to raise from seed, trails along the ground with pretty lilac and white flowers and blooms all through September. Cyclamen africanum is a gem which produces its very fragrant rose pink flowers during September and October. This must have a sheltered position for it is rather a tender variety. The corms should be planted just below the surface in a position where they get the sun, either in the early morning or late afternoon, but are sheltered at mid-day. C. europæum is another exquisite autumn flower with fragrant crimson flowers. It is perfectly hardy, commences to bloom in August and continues all through September. Unlike the other varieties, the corms of this should be covered by 4ins. to 6ins. of soil.

Hypericum repens, despite the sterling service it has rendered ever since June, still remains a decorative plant, the terminal racemes of bright gold flowers looking especially well against the narrow heath-like foliage. The dainty Himalayan Knot-Weed, Polygonum affine, is very attractive now. It grows strongly and creeps widely, with quantities of rosy-pink flowers 6ins. high. Two Saxifrages are left of the mighty host, both Japanese species—S. cortusaefolia and S. Fortunei. They are rather similar and both are rare. Fortunei flowers first and makes handsome rosettes of leaves—bronze tinted where growing in full sunlight—with large panicles of white flowers of the "Mother of Thousands" type. Cortusaefolia does not flower until October, but a close examination will show that the flower spikes are pushing.

Statice bellidifolia is a very rare and dainty little thing, loving a deep sandy soil in fullest sunshine. It reaches about 6ins. in height, with very stiff stems covered with tiny lilac flowers. Verbena venosa still carries on with numerous heads of purple flowers and is a gay little plant for low pockets in gardens where it proves hardy.

The Californian Fuchsia should not be missed. A plant that labours under the disadvantage of a name (Zauschneria californica), that, to say the least, is unwieldy. Call it the Humming Bird's Trumpet and it conveys some impression of this very beautiful plant. The habit is much branched and the foliage hoary, while the fine flowers are trumpet shaped and brilliant vermilion.

Writing of aptly descriptive titles reminds me of Zephyranthes candida—the Flower of the West Wind—and this in sunny spots is now a truly lovely picture, with large white flowers and grass like deep green foliage. If one wants to see this at its best it should be inspected when the sun is shining and the cups are widely expanded.

A pretty little Daisy is flowering in Chrysanthemum arcticum, with white flowers tinted with pink. Wonderful Campanula muralis that covered itself in deep violet purple in June, is preparing to repeat the operation of pretending that it is all flower and does not produce such commonplace appendages as leaves.

Margyricarpus setosus, a little gem that has been decorative all summer must not be overlooked. First there were the much branched heath-like stems and foliage followed by inconspicuous green flowers and now it is covered with shining white berries. The most lovely plant of all, perhaps, Plumbago Larpentæ has been saved till last. This makes a good tuft of wiry stems 9ins. high, covered with bronzy-purple leaves and terminating in heads of wonderful cobalt blue flowers. It cannot have too much sun and is quite hardy in spite of the likeness to its greenhouse relative. Possibilities are by no means exhausted in the above, but all those mentioned can be relied upon to do well under any ordinary conditions.

H. W. CANNING-WRIGHT.

BEAUTY IN FRUIT TREES

Wherein lies the beauty of fruit trees? Is it in perfect symmetry of strong, handsome growths? No. Is it in the burdens which they carry? Yes. "Handsome is as handsome does." In other words: The beauty of fruit trees lies in their utility. One point that makes for fruition—root pruning—is here touched upon.

ONE finds wide differences in the management of plants. The object in view is the same, but the treatment to that end accepted by one grower is often diametrically opposed by another cultivator. It does not appear to me of the slightest moment what the means may be, provided that the end is achieved. A striking example of opposite methods is found in fruit pruning. Here one finds a man who cuts every shoot hard back and there one who refuses to use knife, saw or secateurs. Which of these is taking the wiser course? Personally, I should favour the latter system; covering my opinion by saying that both are wrong, since the correct course is to find the perfect medium between the two extremes.

In regard to root-pruning, the sharp division comes between the man who will, and the man who will not, do it. We see the man who will produce a tree which is handsome in its productiveness and the man who will produce a tree which is handsome only in its straight, osier-like growths. The former goes directly to the *raison d'être* of the presence of a fruit tree in a garden. The latter goes merely to cumber the ground.

It is not, as is too commonly thought by the tyro, difficult to decide when a fruit tree demands root pruning; on the contrary, it is very simple. When the young growths are both numerous and strong—too exuberant to develop perfect blossoms—the tree requires root pruning, with intimately associated, intelligent branch pruning. Unfortunately, the grower frequently neglects the former and directs his efforts towards the removal of every shoot. Obviously the second state must be worse than the first. The roots are still too luxuriant and the growths are multiplied quite three-fold with no measurable loss of excessive vigour. The error lies in commencing above instead of beneath the surface. Although absence of blossoms on strong shoots is a sound reason for root pruning it is not the only one. Any tree that makes more than 2ft. of new growth in a season ought to be considered as a subject for this operation, and it should be dealt with as judgment directs.

The process of root pruning may be divided under three heads as follows: Trees which have been planted one season and which have made rampant growth; older trees, up to about ten years, which grow too luxuriantly to have sufficient energy to produce fruit; and still older trees suffering from the same serious disability.

To deal with the first group is the essence of simplicity. The roots are dug from their beds and immediately replanted, with the soil packed hard to their roots. If a strong root is seen it is reduced in length, but small importance is attached to these details, the repressive action coming from the mere act of lifting and extremely firm replanting.

Trees to the age of about ten years must be handled differently, since they will be much stronger in root and branch development, and individual judgment must be brought to bear on the task. A trench must be cut wholly to encircle the tree and at a distance of 3ft. or more from the bole, according to size and age. Its width may be about 15ins. and its depth 2ft. to 3ft. If a sharp spade is used the strong roots, which cause the excessive luxuriance, will be easily severed, leaving, however, rough cuts. These do not, of course, callus over as quickly as clean wounds, and they, therefore, should be pared off smoothly, preferably from underneath, upwards and outwards. In the generality of instances packing back the earth very firmly in the trench completes the operation; in no circumstances must natural or concentrated food be mixed with the soil replaced. In the possible event of a tap-root further trouble is involved. A cross trench must be cut directly

the bole and the down-striking root sawn clean rough or the whole of the previous labour will be asted.

The third group, comprising older trees, must be oot pruned in two seasons—half-way round in he first year and the remainder in the ensuing utumn. The details of working are on all fours ith those advocated in the preceding paragraph.

The best time for root pruning is from the end of September to the end of October, but it can be carried out successfully at any convenient time in the winter when the weather and the soil conditions are favourable. All tools used must be very sharp because smooth, clean wounds callus more evenly and root more freely than rough, ragged ones. W. H. LODGE.

CORRESPONDENCE

THE RINGING OF FRUIT TREES.

HAVING had some experience with the "ringing" of young Apple trees, I read he article on "Taming of Fruit Trees," by S. Varner Hagen, in September 10 issue, with more han usual interest. If the trees are too large o lift and replant I certainly prefer to "ring" ather than root-prune. Apart from the excessive abour necessary for pruning the roots, I consider he check to the tree outweighs the benefits derived rom that method of "taming." I must, however, ake exception to the writer's assertion that: "Should you cut all the way round the tree will lie." Last winter I was asked to head back and re-graft a number of young Apple trees that had been planted some eight years but had never borne a fruit. I grafted two of them; the remainder I "ringed," removing the ring of bark, half an inch wide, *entirely* round the stem about 9ins. from the ground. Not one tree died nor even looked sick. They have made several inches of clean, healthy wood, and are already showing an abundance of fruit buds. As a matter of fact, four of the trees have ripened a few fruits this summer. This, of course, was not due to the "ringing."—CHARLES S. CLACY.

I READ Mr. Warner Hagen's article on the "Taming of Fruit Trees" with interest. Remembering that Soraner, in his treatise on "The Physiology of Plants," had a section on ringing, I looked it up. After describing the process he states: "Ringing, however, must never be looked upon as one of the regular operations in arboriculture; it will always be an unnatural treatment, which should only be used in exceptional cases, as it generally entails the early death of the branch. . . . For this operation not only affects the portion of the branch above the wound, which easily breaks off, but the base of the shoot or branch is also endangered. This latter portion receives no plastic material from above, the combined ring is therefore starved, and the buds, owing to their deficient nutrition, do not form flowers or fruit." If this applies to branches, the case considered by Soraner, does it not also apply to cases where the whole tree is treated?—W. BUNBURY.

WITH reference to your article on the above subject in your issue of September 10, I should like to call your attention to the "taming" system in use in Shakespeare's time; reference is made to it in "King Richard II.", Act III., Scene 4, the Gardener speaks:

"Oh what pity is it
That he had not so trimm'd and dress'd his land
As we this garden! we at time of year
Do wound the bark, the skin of our fruit-trees
Lest, being over-proud in sap and blood,
With too much riches it confound itself."

—J. W. R. BROCKLEBANK.

GARDEN STEPS.

I THINK, perhaps, that the accompanying illustration may help some of your readers who are in difficulties over the question of garden steps, for, interesting and instructive as the recent allusions to the subject in THE GARDEN have been, one can never lay down rules on step construction that are applicable to all circumstances. The object of a flight of steps is, or should be, the attainment of some point in the easiest possible way consistent with the surroundings, and while curves may be helpful in overcoming grades, they are no less objectionable where they are not necessary than the path that winds to no purpose. As to the technicalities of the subject, I am entirely in agreement with Mr. Dillistone in his condemnation of risers in varying heights, and object to the low (5in.) rise save where there is ample scope for at least a two-pace tread. Our garden being a sharp bank, a good deal of terracing and step-work has had to be done, but this without

OUR CORRESPONDENT'S FLIGHT OF GRANITE STEPS.

introducing any more masonry than was absolutely necessary, for the latter would, owing to the loose, shaley nature of the soil, have entailed great expense, and it would not have been pleasing in a garden where to a great extent the natural features have been preserved. The steps illustrated rise from a small shady landing (served by a shorter flight to water) in a perfectly straight line to the top. They strike the steep bank at an angle of about 30°, have a "dry" retaining wall on the right and a rock border to the left. The direction being almost east and west, the wall (and slope above it) has a northerly aspect and is admirable for most things which enjoy a cool root hold. Taking into consideration the question of expense, the unsubstantial nature of the crumbling bank and the local stone supply, the steps were made of heavy blocks of hammer-chipped blue-grey granite, each with a rise of 7ins., width about 2ft. 4ins., and a tread of about 18ins. The result is an entire success. These steps are perhaps the most admired of all parts of the garden, and even those advocates of more elaborate design, of bends and twists and greater width, must now admit that the right end has been achieved. The steps serve their purpose well, they are beautiful and restful at all seasons, they are as firm as the "everlasting hills," and they are a part of the garden without being a predominant part.—A. T. JOHNSON.

HARDY PRIMULAS IN CULTIVATION.

I WAS interested in Mr. Christie's note as to the parentage of his P. Mabula, but like Mr. Bowles, I am doubtful. It will be interesting to know if it is fertile and also to see a leaf, an old flower stem and a seed-pod or a description of them. Mr. Christie might also say whether he raised more than one seedling and whether he has any other Primulas in his garden within 150yds.—G. H. DALRYMPLE.

I SEE you say in your note to my letter in last week's GARDEN that it is important to know if the Primula "Mabula" produces fertile seed. I think the answer to that is that it is practically sterile; occasionally it sets a very little seed, but my experience leads me to believe that the seed is no good, at any rate, this is nearly always the case.—J. A. CHRISTIE.

AN AMATEUR ABROAD.

SINCE my notes were written I have had access to Gould's "Birds of Europe," and had made out that the bird referred to as, possibly, the three-toed woodpecker, was certainly not that species nor, in fact, any of the other woodpeckers illustrated in that work. There is very little doubt it was the nutcracker, as suggested by Mr. Pearson in your issue of September 3, and possibly the bird I observed most closely, which was not at all shy but decidedly cheeky and noisy, was a bird of the year in immature plumage. I noticed the Pine cones strewed about were well eaten out, and at Zermatt it was feeding on the cones of the Arolla Pine (P. Cembra), which it appears to be specially partial to. The Wahlenbergia-like Campanula, was no doubt a pendulous, small-flowered form of Campanula patula. I recognised this when I had the pleasure of visiting Mr. Bowles' most interesting garden in July last. It has been further verified by a friend, who has raised and flowered it from seed that I brought back, and in writing me says that it "turned out to be C. patula, one of the several alpine forms, identical with the British one except that it is more compact and has hairs inside the corolla . . . I am inclined to think that the compactness will not be persistent, but should it prove to be, I think it will be an acquisition." Your correspondent in THE GARDEN of August 27 last seems to have been successful with Campanula cenisia, and he is to be congratulated. I hope he will have the pleasure of establishing and wintering it satisfactorily; that is the great difficulty, and the plant mentioned does not appear to have wintered outside yet. A friend who visited Switzerland in the early summer brought back a small plant which was potted up and flowered beautifully about the middle of August.—T. ASHTON LOFTHOUSE.

A BEAUTIFUL MONTBRETIA.

I HAVE found Montbretia Queen of Spain one of the most useful of the newer Montbretias. Some of these, while of good colour and with large individual flowers, are stiff in habit. Some, too, do not grow very freely. Queen of Spain [illegible]

has flowers quite 2ins. across, is of a rich orange colour, and a good doer. It has, moreover, a graceful habit, which not only makes it a very useful border plant, but also renders it valuable for decorative purposes as cut flower.—BROOMFIELD.

TROPÆOLUM SPECIOSUM.

I SHOULD like to draw your attention to notes on Tropæolum speciosum in THE GARDEN for September 3 how very little information is really given for those who desire to grow this plant. At Red Gables, Esher, the home of Mrs. Devonshire Jones, you will find it growing luxuriantly on a Yew hedge, but please note that the roots are on the shady side in the cool, while the flowers are very conspicuous on the sunny side. When once planted it should not be disturbed, and even in Scotland it requires careful selection of site to succeed, for there I have seen the north side of a potting shed luxuriantly covered, but on the south-west the leaves were withered. It certainly thrives best in a light soil that is not sodden during the winter. Plants should be procured in pots during early spring when growth has just commenced, and carefully planted without breaking the ball. After thoroughly watering once they are best left alone to fend for themselves.—S. W. MCLEOD BRAGGINS.

THE FLOWERING RUSH.

I HAVE the permission of Professor Darlishire of the University of Bristol to publish the enclosed photograph of an unusually fine clump of Flowering Rush (Butomus umbellatus) growing in a small shallow pond in the Botanical Garden. In the wild state I have never seen so many

THE FLOWERING RUSH, BUTOMUS UMBELLATUS.

flowering heads on one clump, though accustomed to the plant from childhood. B. umbellatus is the sole species of the genus which gives its name to the family Butomaceæ, an offshoot of Alismaceæ, in which it has hitherto been usually placed. The peculiar rose-coloured flowers, on umbels at the head of rigid stems, are well known at the sides of ditches, canals and rivers, for though the plant is local and met with in every county, it is widely spread from Cornwall to Durham. In Scotland it is naturalised and in Ireland "rare and local." It is sometimes seen by lakes in Ireland, but in England I never heard of it by ponds or lakes, unless planted. Its distribution in continental Europe is wide, though often very local, and from several European countries it appears absent. It also occurs in temperate Asia and is reported from Algeria. The etymology of the word Butomus remains in obscurity.—H. STUART THOMPSON.

A DESIRABLE TULIP FOR THE ROCK GARDEN.

AN exceptionally fine little Tulip species for planting in the rock garden is Tulipa saxatilis. Its dainty flowers form there a most attractive picture in the spring. It is an early flowering gem and does best when planted on a very sunny slope in gritty loam. The flowers are a delicate pale rose with a deep golden yellow centre and are borne on stems 8ins. tall. The bulbs can be regarded as permanently planted and do not require annual lifting and replanting; indeed, they are better when left for several years, although they must be lifted when the bulbs become crowded, divided and replanted.—BULBIST.

SCENT FROM STRAWBERRY BEDS.

SOME few months ago a letter appeared in THE GARDEN from one of your regular correspondents, under the above heading, which interested me at the time, as I had also noticed this peculiarity. One bright afternoon during the hot spell this summer, however, it was more marked than I ever remember, so much so that I stopped to revel in the scent. The last of the fruit had been picked some days before, and I now regret that I did not gather a few leaves in order definitely to trace its origin. Possibly some of your readers may have done so and can throw further light on this additional attraction of the Strawberry.—E. R. T. CORBETT.

THE BLUE IPOMŒA.

IN your issue of September 3 there is an answer to a correspondent who had complained of seedling Ipomœas not flowering. The writer of the reply expresses the opinion that the fault could hardly lie with the season, and supports that view by stating that the Blue Ipomœa has been flowering freely on the Duchess wall at Kew. It may interest your Kingston Hill correspondent to know that a number of seedlings of the plant in question, 7ft. and 8ft. high, have been, and to-day (September 12) still are, flowering freely here both on south and west walls. It is a lovely twining plant seldom seen in these parts.—CHARLES COMFORT, *Midlothian*.

A NOVEL FRUIT GATHERER.

A RECENT experience of mine might possibly be of use to other readers of THE GARDEN placed in the same or like circumstances. The problem was the harvesting of the fruit from some overgrown standard Plum trees in a cottage garden, many miles from everywhere; the upper branches of the tree would not have supported a ladder, even if one had been available. A piece of stout galvanised wire was bent into an equilateral triangle with open apex, the sides being produced, bent parallel with one another to allow of their being bound to a pole. On this framework a conical linen bag was sewn. Along the base of the triangle was wired a lath of wood on which had been tacked four discarded safety-razor blades, the kindly manufacturers having provided holes for the tacks. The blades just overlapped on another so as to provide a continuous cutting edge clear of the wood, and were slanted to form a wide re-entering angle at the centre, the wood at the centre being cut away a little to ensure the blades clearing it. This frame was then bound to the end of a light 10-ft. pole which had served many another purpose in its time. It was found that a gentle pull sheared the stalks of the fruit and dropped them into the bag. Incidentally, too, the apparatus solved the problem of the disposal of safety-razor blades which, with used gramophone needles, have a way of accumulating inordinately in the absence of any neighbouring ostrich farm.—GREENBURN.

SOILS AND DROUGHT.

IT may interest your readers to hear how my Devonshire garden fared this summer during the unusual drought. Our soil is a very stiff clay which, in ordinary times, I find a great trial and spend many hours envying my lucky neighbours, who seem to grow with comparative ease all my favourite flowers, which give me double the pains and trouble. I mean such flowers as Carnations, Pinks, Lilies, Azaleas, etc., which, of course, much prefer a light, sandy soil. However, this year I was able to crow over them and am now quite reconciled to our much abused clay. It is really marvellous how it has held the water and how little we have suffered from drought. We have had, of course, more rain than there has been in the East of England, but compared with our usual rainfall I think we may call it a drought. The rain gauge recorded 2.75ins. in May, 1.05ins. in June, .66in. in July, and 2.20ins. in August. The actual rainfall, of course, in no way demonstrates the very rainless character of the summer. Thus in June rain fell only on two days, and in July the number on which a millimetre or more fell was four. August was generally wetter, but after the 11th there was scarcely any rainfall at all. In addition, the heat in June, and also in July, was really intense, the air frightfully dry and the sun correspondingly fierce. Like many other people I am obliged to cultivate the entire flower garden myself, and when I explain that it measures quite three-quarters of an acre, my readers will understand that it was an utter impossibility to attempt to water to any useful extent. I resolved, therefore, to rely entirely on hoeing, and it is to this comparatively easy, pleasant task that I attribute my success this summer. The only plants which I watered were Begonias and Heliotrope. It sounds horribly boastful to thus extol my own prowess; I only feel that my experience may be a little help to other amateurs who may be starting a new garden on heavy soil and have not yet cultivated it long enough to realise how, in time, one does reap the benefit from diligent trenching in the winter, also a plentiful application of leaf-mould and burnt wood-ashes (a home supply, not bought) added to the regular use of the hoe during the spring and summer months. The melancholy part of the matter was the short lives of nearly all the summer flowers, thus as I am writing there are hardly any annuals left. Our garden has never been so satisfactory as during the past three months.

Roses were better than I have ever seen them; "bedding" was a mass of bloom, and the baceous border full of colour all the time. had a constant supply of flowers for house oration, and very few complaints from a very ical daughter who undertakes this part of the k; also I am able to pay some of my seed bills h prize money which I won at a local show. btained a second for Roses and a first for eight ieties of cut-flowers. Those which I sent were iotrope, Larkspur, Stock, Antirrhinum, Godetia, ntbretia, Phlox and Gaillardia.—F. F. LUTTRELL

A USEFUL SCREEN PLANT.

OBÆA SCANDENS is one of the most popular quick-growing plants for covering unsightly ects or screening undesirable views in the den in summer. The variety variegata is one the most attractive and desirable plants for vering a large area in the cool greenhouse or nservatory, and is, at the present time, presenting really glorious picture as it hangs in festoons slender Vine-like growths, with handsome een and white splashed foliage and lovely purple wers, from the rafters overhead. No one who is miliar with both forms would hesitate as to which the more desirable—for indoor work, at any rate. appily it bears cutting well, and late in the year just after Christmas should be severely pruned ck to within an eye or two of the old wood. ith the lengthening days new shoots quickly volve and commence to clothe the pillars with e handsome foliage. During the earlier stages growth it pays to attend to the training of these oots so that they do not become a hopelessly ngled mass. They succeed best when planted it in a narrow border, and although this need not e wide, it should be deep, well drained and filled ith rich fibrous loam. When planting, make the il very firm and throughout summer and winter e that the roots are plentifully supplied with ater, for they are extremely thirsty plants and on exhaust the soil. Each spring a portion of the rface soil must be carefully scraped away and eplaced by fresh, adding a proportion of old manure this. Propagation can only be effected by triking cuttings, which should be placed in very andy soil and kept in a close atmosphere with areful watering until well rooted and growing reely.—TROPICA.

THE BROWN TURKEY FIG.

THIS is a splendid Fig to grow against a south or west wall. It produces fine crops annually and may be depended on. We have one here which has not missed fruiting for the past six years. These figs are splendid for dessert or ordinary use in the uncooked state. The above variety seems to be very hardy, as it receives no protection whatsoever here, except that it grows against a wall (south). The young figs appear on the shoots and may be seen before the leaves expand in spring.—WALTER SMYTH, *Co. Down.*

PHLOX DECUSSATA LA NEIGE.

I HAVE for years taken an interest in the decussata section of Phloxes, growing annually sixty varieties. For some years I have considered Freifraulein von Lassberg to be the finest white-flowered variety, but from my experience this season, even in a full southern exposure and also from your picture on page 427, I am changing my opinion in favour of the variety La Neige. "Lassberg" has equally large pips, is quite as pure in colour, but the panicles are not so large, and it is these which give a variety grandeur. La Neige is, like its rival, amply furnished with dark green

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Sweet Peas.—Where outside autumn sowing is practised the latter part of September and the early days of October offer the best time for the work. On cold, retentive soils the method cannot be recommended. Instead, it is advisable to sow in pots or boxes and grow in cold frames, taking care in the early stages of growth to guard against the ravages of mice. Protection is only necessary during very inclement weather, the main purpose being to produce hardy, vigorous plants. There have been so many excellent lists given from time to time in the pages of THE GARDEN that it is unnecessary to enumerate a lot of varieties here.

The Grouping of Plants.—Before the season is too far advanced notes should be made of groupings in front of shrubberies or on herbaceous borders, etc., which, during the past year, have proved unsatisfactory. Only in isolated cases has the weather been favourable for the usual freedom of growth among plants in general, so it should not be taken as a true criterion of what plants with which we are not familiar may do, given a more favourable season. Any bad arrangement of colours or a too clock-like formality of grouping are more particularly the points which may be remedied when replanting.

The Kitchen Garden.

Autumn-Sown Cabbage.—The planting of this important crop must be proceeded with as the plants become fit. Where it has been possible to prick out the seedlings a few inches apart good plants are now available, but this cannot always be attended to at the proper time, so planting must proceed direct from the seed-bed. A plot of ground recently cleared of Onions or Peas, etc., will suit this crop admirably. On sandy soils plant in drills, from 16ins. to 18ins. from row to row and between the plants is sufficient for small-headed varieties, allowing a few more inches each way for stronger ones.

Beetroot.—If the main batch of these roots is sufficiently grown they may be taken up and stored in a cool shed, or failing such, they may be clamped under a north wall. Sand is the best medium in either case for using among the roots, and great care should be taken to see that no damage occurs to them while lifting and storing is in progress. Choose a dry day for the work and allow the roots to remain upon the surface of the land after lifting for a few hours before carting them away.

Celery.—The earthing up of the early supply should continue as necessary, choosing a dry day for the operation and taking care that no soil enters the hearts of the plants. A little may also be drawn up around later plants, removing at the same time any unnecessary leaves and sucker-growths

Late Potatoes.—Where lifting has been delayed all haulm should be cut down to within a few inches of the ground and cleared away, thus rendering further development of disease less likely. In spite of the drought we have been fortunate enough at Albury to lift a good yield of Potatoes right through the season. The varieties more particularly worthy of note are Ninety Fold, Carter's Advancer, British Queen, Windsor Castle and Majestic. The latter on land newly turned up and dressed with lime and muddy vegetable matter from a pond bottom, gave as good a return as could possibly be wished for.

The Hardy Fruit Garden.

The Planting Season.—Preparations for planting must be pushed ahead, especially where new ground has to be cleared and a considerable amount of trees are to be dealt with. In such cases the list of varieties should be decided upon at once and the order placed without further delay to make sure of receiving the trees required and to time. Soils and districts vary so much that it is useless to dogmatise about the best varieties. To those unacquainted with a district or county a perusal of the Royal Horticultural Society's list will be helpful, or, better still, consult a recognised established fruit-grower of the district.

Plants Under Glass.

Winter-Flowering Geraniums which have been standing outside for several months should now be housed. A light, well ventilated structure is the ideal one if such can be given up to them, otherwise shelves in open positions in fruit or Carnation houses must be made use of. As the evenings become colder a gentle warmth in the hot-water pipes will be beneficial. Avoid excessive waterings and always maintain a buoyant atmosphere.

Azalea indica.—Remove these plants indoors into cool quarters if not already seen to, using a little heat, when found necessary, on cold nights. Thrip is nearly always troublesome with these plants, and while the work of removing them under cover is in hand, the opportunity should be taken of thoroughly syringing each plant with a suitable wash.

Cyclamen and Primulas.—If the frames where these plants are growing are cold and damp remove the forward plants to their positions indoors. Later plants, with careful watering and airing, will do for several weeks longer so long as sufficient protection is given on cold nights. Late batches of Primulas may still be potted on if necessary.

Cinerarias.—Pot on late plants as required and still grow them in cold frames on ash bottom, giving protection with mats, etc., on cold nights. Although these plants delight in cool conditions, the leaves are somewhat easily damaged.

Fruit Under Glass.

Peach and Nectarine Trees.—Where any renovation of the borders is necessary in early houses the work should be taken in hand as soon as possible. This will enable the trees to make good root-action and the compost get thoroughly settled down again before time comes again for starting. Where any trees are being lifted in the early house or fresh ones introduced from other houses, do so just as the leaves are ripe while there is still a considerable flow of sap. If kept syringed for a little while and the roots well watered in, trees moved thus will receive hardly any check and the roots will soon be at work in the new soil. Drainage should be thorough and ample and covered with turves, grass downwards. The rest of compost used should be lumpy, fibrous loam, with the addition of old mortar rubble, wood-ash and assorted bones. Firm work is essential.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Root Crops, such as Salsify, Carrots and Beet should be lifted and stored in suitable quarters for the winter. Exercise care in lifting the long-rooted Beet as the least break or prod with the digging fork will make them useless for kitchen purposes. Parsnips may also be lifted now, although many growers believe in leaving them in the ground throughout the winter and just lift as required.

Spinach Beet.—Thin lightly where required, afterwards running the cultivator between the rows to loosen the surface soil.

General Work.—Owing to excessive rain there has been difficulty in keeping the vegetable garden clear of spent crops and weeds, but at the first opportunity this work should be taken in hand. Burn all rubbish not likely to be of use in the rot pit and stack Pea stakes carefully in their winter quarters. All fruit netting not now required must be thoroughly dried before housing.

Fruit Under Glass.

The Vinery.—Vines which have been cleared of their crops should receive partial pruning and so facilitate the ripening of the wood and encourage the plumping of the basal buds. The growths of earlier forced Vines will now have assumed that brown colour associated with properly ripened wood and so may be more severely pruned back. Houses where the wood is not so well ripened as may be desired should still have the benefit of a little fire heat, coupled with free ventilation.

Strawberries for Forcing.—Transfer these to their fruiting pots without delay, using a fairly rich compost and potting firmly. Afterwards stand them on ashes in an open situation so that sturdy growth may be encouraged. Move to a cold frame before severe frost comes, as otherwise damage may ensue to the pots

Plants Under Glass.

Cinerarias enjoy cool culture and may be kept in a cold frame until well on in the season. So long as the weather is fine the sashes may be pulled right off during the day, as this induces firm and healthy

growth with less likelihood of attacks by insect pests. Very little watering will be required during their period in the frames, carelessness in this respect often causes damping at the neck of the plants.

Fuchsias.—Large plants of these, now over, should have their growths partly pruned back and allowed to gradually dry off before putting them away for the winter. Where that fine hanging variety, Cloth of Gold, is grown, care should be taken not to dry off too severely as, owing to the fineness of the growth, they shrivel readily—rather, keep them in an airy house and water sparingly during the winter months.

Primulas, such as obconica and sinensis, may now be moved from the cold frame to a low roofed greenhouse or pit, where with the advantage of a slight touch of fire heat, they may now be allowed to flower. Continue to assist with waterings of liquid manure and ventilate the house freely. Primula malacoides never does better than when grown under the coolest conditions, as the foliage is then much stronger, while the flowers are noticeable in being richer in colour.

Zonal Pelargoniums.—Cuttings of these struck during the summer and grown with a view to winter flowering should also be moved into a warm, well ventilated greenhouse, and if sturdily grown plants, will soon give a profusion of flower; they then may be utilised to brighten the conservatory. As the pots will be well filled with roots an occasional watering with Clay's fertiliser will add continuity to their flowering period.

The Flower Garden.

Violas.—Cuttings should now be got in for next season's planting. Make use of the nice stocky growths coming away from the centre of the plant; never use flowering shoots unless scarcity of better growths necessitates their being utilised. Dibble the cuttings firmly into a compost of leaf-mould and sand, give a good watering and keep the frame closed for a few days. Shade from bright sunshine.

Pentstemons.—Owing to the drought growths suitable for cuttings are scarce, but immediately non-flowering shoots of a suitable size can be obtained they should be inserted in like manner to that advised for Violas.

Standard Plants of Heliotrope, Fuchsias, Geraniums and other tender subjects which have been used as "dot" plants in the flower garden, must now be lifted and transferred to frost-proof quarters for the winter.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

Gardening in the Sub-Tropics

THE British are admittedly an Imperial people. To them the "wanderlust" is usually a phase that passes. Most of us, at one stage of our existence, have felt its call. Gratified or ungratified, sooner or later, generally "sooner," it passes away. The stay-at-home "settles down," the emigrant to the outposts of Empire makes his outpost his home. It is seldom that the call of the Motherland makes itself felt as a desire to return thither. Another trait particularly characteristic of our race is the love of gardening. These things being so, a reliable guide to gardening in the sub-Tropics should be of real value. Miss Stout's book* runs to some 200 pages, and it is full of useful information set out without any flowers of rhetoric, but in a concise, orderly and pleasing manner.

The book is of real interest for the stay-at-home, partly for the insight it gives into conditions in the sub-tropics and notably in Egypt, of which country the authoress has had most experience, and partly for the advice it gives which is of more general application. The opening chapter on the planning of the garden, which is no doubt from the pen of Miss Stout's collaborator, Miss Madeline Agar, is one which many British gardeners, both amateur and professional, might well read and chew upon.

It is very interesting to learn of the plants which succeed in our English gardens and also under the torrid suns of Egypt. The families of plants which succeed are not always those one would expect, but sub-tropical countries vary, of course, a great deal in climate, and plants which succeed or fail in Egypt would not necessarily do so under noticeably different atmospheric conditions.

There are useful chapters on propagation, manuring and pests, selections of plants and shrubs, while Roses, Chrysanthemums and Pelargoniums (Zonal and Regal) all have special articles devoted to them, as do roof-gardening, "damping-off," pot-pourri and home-made perfumery. The whole is rounded off by a calendar of operations.

The only real fault that can be found with an excellent book is several very stupid printer's errors, which are not, however, in general, calculated to mislead. "Bulb" for "bud" in the article on Chrysanthemums is a case in point. The worst error noticed was a rather serious one in the quantity of grass seeds to sow. Reading proofs is, to an author, a very tiresome proceeding, but a very necessary one.

To sum up, the book is a particularly recommendable one for residents in countries within 30° of the Line, or for those contemplating settling in sub-tropical lands. It would prove, too, a practical and inexpensive present to a friend in such regions.

* "A Book of Gardening for the Sub-Tropics." By Mary Stout and Madeline Agar. H. F. and G. Witherby, 6s. net.

The "Journal of Pomology" in Straits.—With the current issue of the Journal just to hand and which contains very interesting and practical articles on stone fruit stocks, apple canker, the size, colour and quality of fruits and much other matter of interest to the fruit-grower, is included a disquieting circular from the publishers.

The present number, they say, completes the second year of publication and the Second Volume. It has a circulation extending to all parts of the globe and is the only English publication of its kind. Such a journal must, however, depend on a considerable home list of subscribers to achieve financial success, and it has, so far, been run at a considerable loss, this notwithstanding the fact that contributors to date have accepted no fees.

There appears, therefore, to be no other alternatives than either to cease publication or, possibly, should sufficient support be forthcoming, to continue at the increased subscription of 15s. per annum for four quarterly numbers.

A card is enclosed with each subscriber's copy, and the publishers, who make it clear that they are not out to secure any profit for themselves, state definitely that unless an adequate number indicate within the next week or so their willingness to continue to subscribe on the suggested new basis, publication must cease.

There must be, we are confident, numbers of people interested in the practice and theory of fruit culture who should be, but are not, subscribers to this admirably illustrated journal, and to them, as to the existing subscribers, we make appeal to give the necessary modest support so that publication may continue.

An International Iris Conference.—The National Horticultural Society of France is organising an International Horticultural Show for the spring of 1922. In conjunction therewith it is proposed to hold a Conference to consider the scientific and horticultural aspects of the Iris.

Paris Autumn Exhibition.—The annual Autumn Exhibition of Chrysanthemums, Fruit and Vegetables held by the National Horticultural Society of France will take place in the Palmerium of the Jardin d'Acclimatation, Paris, from October 28 to November 6. The schedule recently issued contains liberal provision in the numerous classes for Chrysanthemums and other flowers, etc., of the season, with substantial prizes of honour given by the Government and Municipal Authorities. Visitors on their way to Le Mans should not fail to stay a day or two in Paris to view this important horticultural show.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20 Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

IRIS SUSIANA UNSATISFACTORY (Penrhyn).—This beautiful Iris is notoriously difficult to flower. While keeping the pots near to the glass in the unheated greenhouse during the resting season is quite correct, we should prefer to place the pots out of doors in spring as soon as the weather permits. If it can be done it would be well worth while making up good sandy soil on a border outside the greenhouse on the sunniest side and arranging to protect with a small frame during the winter, removing the light as often as possible when growth commences.

CYPELLA HERBERTI (H. B., Beacontree Heath).—This is a half-hardy bulbous plant introduced from Bueno Ayres in 1823. They will generally thrive in light rich soil in a warm, sunny position, such as at the foot of a south wall. As this Iris-like plant is not quite hardy some protection in winter is needed, while in cold districts it would be well to lift them and replant in the spring. The bulbs are offered by Messrs. C. G. Whitelegg and Co. at 4s. 6d. per dozen.

TREES AND SHRUBS.

PROPAGATING CUPRESSUS MACROCARPA (B. C. H., Dovercourt).—This tree may be propagated from cuttings. It is not essential to make the cuttings with a heel of old wood, though in this form they root quicker. If cuttings about 6ins. long are firmly inserted in pots and boxes of sandy, leafy soil now and placed in a cold frame they will root fairly readily.

FRUIT GARDEN.

SEEDLING APPLES FOR EXAMINATION (J. B., Surrey).—The largest Apple appears to be a very promising fruit, and is, we think, well worth perpetuating. The smaller Apple is not nearly so good as the former, and is too much like some existing varieties.

MISCELLANEOUS.

NAMES OF PLANTS.—J. B. B., Derby.—1, Sedum spurium; 2, Campanula Trachelium; 3, Sedum crassipes; 4, Mentha rotundifolia; 5, Sedum lydium; 6, Aconitum volubile.——H. P.—Roses; 1, Marguerite; 2, Donald McDonald; 3, Lady Roberts; 4, Lady Hillingdon; 5, W. C. Gaunt.——Woodyates.—Phytolacca acinosa (Indian Poke).

NAMES OF FRUIT.—M. J. T., Surrey.—Apple Keswick Codlin.——J. R., Tanybwlch.—Apples; 1, Calville Rouge Precoce; 2, Feltham Beauty; 3, Hambling's Seedling; 4, Lamb Abbey Pearmain; 5, Peasgood's Nonsuch. Pear; 6, Comte de Lamy.——D. H. S. S., Combe Hay.—Apples; 1, Alfriston; 2, Emperor Alexander; 3, Lord Derby; 4, Leathercoat Russet; 5, Bess Pool; 6, Hubbard's Pearmain; 7, Gold Medal; 8, Pott's Seedling; 9, Brocksley Pippin; 10, Gascoyne's Scarlet; 11, Tower of Glamis; 12, Ribston Pippin. Pears; 13, not known; 14, Uvedale's St. Germain; 15, Marie Louise d'Uccle; 16, Beurré Hardy.——T. S. T., Winscombe.—Apples; 1, Wormsly Pippin; 2, Lamb Abbey Pearmain; 3, Chateley Kernel; 4, Gascoyne's Scarlet; 5 and 7, Gloria Mundi; 6, Alfriston; 8, Tom Putt.——T. A., Glasgow.—Apples; 1, Lord Suffield; 2, Devonshire Quarrenden; 3, Stoke Beauty.——R. H. S., Crosshills.—Apples; 1 and 3, Lord Suffield; 2, Potts' Seedling; 4, not known.——N. G. W., Overton Bridge.—Apples; 1, Lord Suffield; 2, Allington Pippin; 3, Golden Spire; 4, Warner's King; 5, Lord Derby.——W. R. J., Cornwall. — Apples; 1, Cox's Pomona; 2, Striped Beaufin; 3, Ribston Pippin; 4, Pine Apple Russet.

FORTHCOMING EVENTS.

September 28.—Irish Gardeners' Association Meeting.

October 3.—National Chrysanthemum Society's Floral Committee Meeting at the Royal Horticultural Society's Hall, Westminster at 3.15 p.m.

October 4.—Royal Horticultural Society's Autumn Show of British-grown Fruit (two days).

THE GARDEN

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NOTES OF THE WEEK

[October 1, 1921.

OUR next issue will be very largely devoted to trees, shrubs and plants which are really effective in autumn. In addition to notes on suitable varieties and their culture, the arrangement of the garden for autumn effect will receive special consideration. This seems a particularly appropriate time for such an issue, as, in the first place, it will enable the deficiencies in each reader's garden to be noted, and, secondly, the planting season is at hand when any alterations can be put in hand.

Squirrels, Red and Grey.—Further letters this week testify to damage done by squirrels. Hitherto the complaints have been with regard to the misdemeanors of the native red squirrel, whose beady eyes, bushy tail, rich colouring and quaint mannerisms have endeared him to all nature lovers. Now, however, attention is very properly being drawn to much more serious damage which has been committed by the Canadian grey squirrel, whose ancestors were, in a weak moment, released by the Zoological Society in Regent's Park. They have, or are supposed to have, a certain value for human food and, perhaps, if country folk of the poaching class had their culinary properties explained to them, they might at least do something to keep them in check.

A Suggestion.—There is, unfortunately, no doubt that the grey squirrel, which most people consider too like a bushy tailed rat to be beautiful, has spread and is spreading over the countryside at an extraordinary rate. It is, as it goes, so report says, clearing up the red squirrel. It appears, in fact, to be exterminating the smaller native species and filling its place, much as the grey Norwegian rat, in times gone by, exterminated and replaced the native black species. This haphazard "turning up" of alien species of animals and birds—to say nothing of reptiles and insects—is a dangerous and senseless business. Most specimens so liberated fail to acclimatise, and perish miserably; the experiment is a failure. Where, exceptionally, the introduction succeeds, after a little time to settle down, the newcomer very frequently breeds so freely in its new environment that it becomes more or less a plague. Cases where such introductions have been disastrous come readily to mind. The grey rat was landed here by accident, but the wild rabbit was introduced into Australia of set purpose!

The Powers That Be.—In these days when the liberty of the individual is little more than a polite fiction, when in many cases one may not even plant Potatoes to suit one's own taste and circumstances, and when stringent precautions are taken against the introduction of plant pests, it might be well if our paternal Government disallowed the importation of live exotic specimens of any section of the animal kingdom except under license. The penalties for infringement of the Regulations should be severe. It does not seem a very wise proceeding to prohibit the importation of infected plants and allow the unrestrained import of scientific germ cultures and all kinds of "bugs," moths and beetles.

Birds and the Gardener.—When considering the ravages of the squirrels one's thoughts naturally turn to the depredations of birds in orchard and garden and, more important still, if strictly outside our province, on the farm. Birds may be divided into three classes—the almost entirely harmful, the absolutely useful, and those which are on the whole useful in moderate quantities, but which become pests when over numerous. From, at any rate, the gardener's standpoint the jay, magpie, wood-pigeon, sparrow and hawfinch would be placed in the first category, together with the bullfinch, whose good qualities, such as they are, are quite overbalanced by his partiality to fruit buds and general destructiveness. In the second group would come, naturally, such birds as the robin, wren, hedge sparrow, goldfinch, woodpecker, shrike, peewit, swallow, martin, swift, sandmartin, all owls and numerous others. The greater number of common birds, none the less, come into the last category. It should be axiomatic that one can have too many of the crow family. However plentiful, the rook seldom does damage in gardens, but the starling, when too numerous, is almost as much to be feared, individually, as the jay and he pays his visits in battalions. Of the thrush family, the song and missel thrushes are much less of a nuisance, despite their partiality to soft fruit, than the blackbird, whose catholic taste now includes ripening Apples and Pears. All the thrush family, of course, consume quantities of snails, slugs and other ground insects; indeed, they render the gardener a service he will never fully realise unless some epidemic practically exterminates them. The damage a bird seems capable of performing has small relationship to its size, and the tits—quaint and beautiful and in some ways useful as they are—are undoubtedly, when numerous, on balance enemies to the gardener. From an exclusively garden standpoint the hawks, preying as they do on small ground vermin, are eminently useful birds. The birds protected by law are not altogether well chosen, and one cannot help feeling that sentimental reasons have brought about the inclusion of too many song birds. Song birds are not all innocuous: very often indeed, as the Irishman said, "the contrary is the reverse." No one, we should suppose, would wish to be without the "feathered choir," but that is no reason for allowing them to multiply unduly. Many of us [illegible]

"GERMAN" IRISES MAY STILL BE PLANTED

IRISES BY THE WATERSIDE

"Gold and purple, violet, rose, lavender, grey blue, ivory white and many intermediate shades and tones are the materials offered by these denizens of moist lands to paint our waterside pictures."

THROUGHOUT the floral world it would appear that Nature, in her wonderful economy, gives more freely those of her works that have attained the highest perfection. Having achieved a superior type, she multiplies it with slight variations in such a way that it can never fail in its appeal to beauty-loving mankind. It is as though she says, "Here is one of my best works, I will place it in many parts of the world so that it shall not be overlooked. High up in the mountain fastnesses, down in the green valleys, in the dry wilderness, and lush, low-lying meadow lands. I will vary its constitution and construction to suit all these conditions, and moreover will so arrange the organs of assimilation that there shall be species that will thrive under all the varying conditions of the geological development of the earth. Some shall live and grow where water is scarce, and only moistens the roots for a few months in the year. Others shall thrust themselves out into the margins of the still waters, and there display their beauty, twice enjoyed, once in the actual flower, and again in the wonderful reflection cast into the depths at their feet."

All and more than this has she done with the Iris. Perhaps no other genus exhibits in such marked degree so pronounced an accommodation to every environment. From the Oncocyclus and Regelia groups that love to be sun-scorched and baked during the resting period, to the species Pseudo-acorus that will thrust its growth right into the waterway, there exists an immense range of forms that require every varying phase of intermediate condition. Again, the whole world of vegetation can be broadly divided into three groups—lime loving, lime hating, and lime indifferent. In the genus Iris we find all three well represented. Thus at one end of the scale we find the rhizomatous Irises, which, almost without exception, demand lime in the soil for healthy survival. These include the beautiful section known as the Bearded Irises of June. At the other end of the scale are the Californian species and Iris Kæmpferi which object to lime. Thus every possible condition is provided for, and a fact equally remarkable is that, with very few exceptions, all can be classed as hardy in the temperate zones of the world.

In recent issues of THE GARDEN the value of the Bearded Irises has been fully emphasised. It is the turn now of the species and varieties that revel in moist conditions and are suitable for planting in low-lying land where the moisture is permanent, and by the side of lake, pond or stream. Most of these are grassy leaved and exceedingly attractive on account of their foliage.

Among them none is more exquisitely beautiful than the truly regal Japanese Iris Kæmpferi. Incidentally, the Japanese have given us an excellent example in the naming of the many varieties of this beautiful flower, and one could wish that their poetic instincts entered into the naming of some of our home-bred productions. Shiratki (White Waterfall) is infinitely more suggestive of a silvery white flower with broad fluted petals than is Mrs. Pocksted-Clak which is the sort of name that our English raisers love to bestow on their choicest hybrids. One sees also in Hatsushimo the glistening sheen of "First Frost" suggested on the white petals. In Momijino-taki (Maple Waterfall) the splash and swirl of tumbling waters, dyed with the reflected colour of crimson purple from the overhanging Maple is prettily conveyed. Then there are Moonlight Waves, Yezo Embroidery, Morning Mists, Distant Mountain and others, and so the characteristics of the beautiful flowers are associated with some other beauty of Nature or art, and thus speak to the imagination. Mrs. Pocksted-Clak may be a beautiful production of Nature or art, or both. but there is little to suggest it in the name, which takes the imagination nowhere beyond the flower that bears it. Distant Mountain and Purple Isles give us at once two pictures. One in the flower itself, another in the grey blue of ascending hills in the far landscape, or visions of the lake scenery of Killarney, Corib, or a placid sea where in the sunset glow an archipelago of islets rise darkly on the horizon.

Iris Kæmpferi are strong feeders. They make a very large number of fibrous roots, and therefore the soil in which they are planted must be well prepared and rich. Moreover, for the same reason the best results are obtained by transplanting about every three years. They love plenty of water during the growing season, but are not at other times so insistent in respect of water as they are generally supposed to be. They succeed by the waterside, but should be planted just above the water level. They will do in any well cultivated border, providing they are given plenty of water from March to the middle or end of June. After this period the normal conditions of an English summer suit them admirably. They are best transplanted during September or October, or during suitable weather in March or April. No plants should be introduced by the waterside during mid-winter.

Next to the Kæmpferi I think the Siberian Irises rank, both for use and beauty, as waterside plantings. The best varieties are Emperor, a deep rich purple; Perry's Blue, an exquisite shade of turquoise blue with deeper veining; and Snow Queen, a pure white. It is impossible to enumerate all the species and varieties that can be used under the conditions described, but there are some that are indispensable. I. Delavayi is a Chinese species with rich dark violet flowers and graceful foliage. I. Cuprea (fulva) I have seen reaching out from the bank right into a narrow stream and apparently enjoying itself immensely. It is a curiously beautiful shade of reddish copper. Albo-purpurea and its greatly improved form, Colchesterense, will stand partial submersion during the summer months. Then there are the varieties of the native Fœtidissima, the golden foliage of which is invaluable by the waterside and in shallow water. The species itself is likely to become a little too rampant for any but the largest areas. Pseudo-acorus foliis variegatis is an indispensable variety of the species said to be the origin of the fleur-de-lis, the "golden Lilies of France." I believe there is no really satisfactory authentication of this claim. There is a story that Louis VII, during one of the Crusades, was retreating from the Saracens, and this Iris indicated shallow water across a river. By fording it at this point he and his followers escaped, and he therefore introduced the conventional symbol into the Royal Arms of France. I believe, however, that the fleur-de-lis appeared much earlier in Venetian heraldry. Moreover, the fleur-de-lis was introduced into the English arms by Eleanor, the divorced wife of the same Louis, when she married Henry II. I do not know whether, in heraldry, the divorced wife claims to carry with her the quarterings of the husband, but it seems at least probable, in this case, that Eleanor claimed the fleur-de-lis in her own right,

IRIS KÆMPFERI BY THE WATERSIDE.

she would scarcely be ambitious to wear a mbol adopted by Louis if it had been created r him during their brief association. The cts certainly cast a doubt on the veracity of ie statement, and, personally, I incline to the elief that the flowers became fleur-de-lis (or ower de luce) on account of their resemblance o the heraldic symbol, rather than that the flower as the origin. One could suggest several quite s probable origins that have nothing to do with owers.

Other Irises that flourish by the waterside, hough not necessarily at its edge, are: Aurea, golden giant; Ochroleuca, a noble plant, both s regards foliage and its ivory white flowers; Ionnieri, a pale yellow of luxuriant habit and rofuse flower; Spuria, rich dark lue; and their hybrid forms, such s Monspur, Monaurea and others Then there are also the species Bulleyana, Forresti, Lævigata, and ther Chinese and Japanese forms.

Gold and purple, violet, rose, avender, grey blue, ivory white and many intermediate shades and tones are the materials offered by these denizens of moist lands to paint our waterside pictures. Foliage unequalled for elegance and grace is theirs, which makes them valuable in such positions even though they never bore a flower.

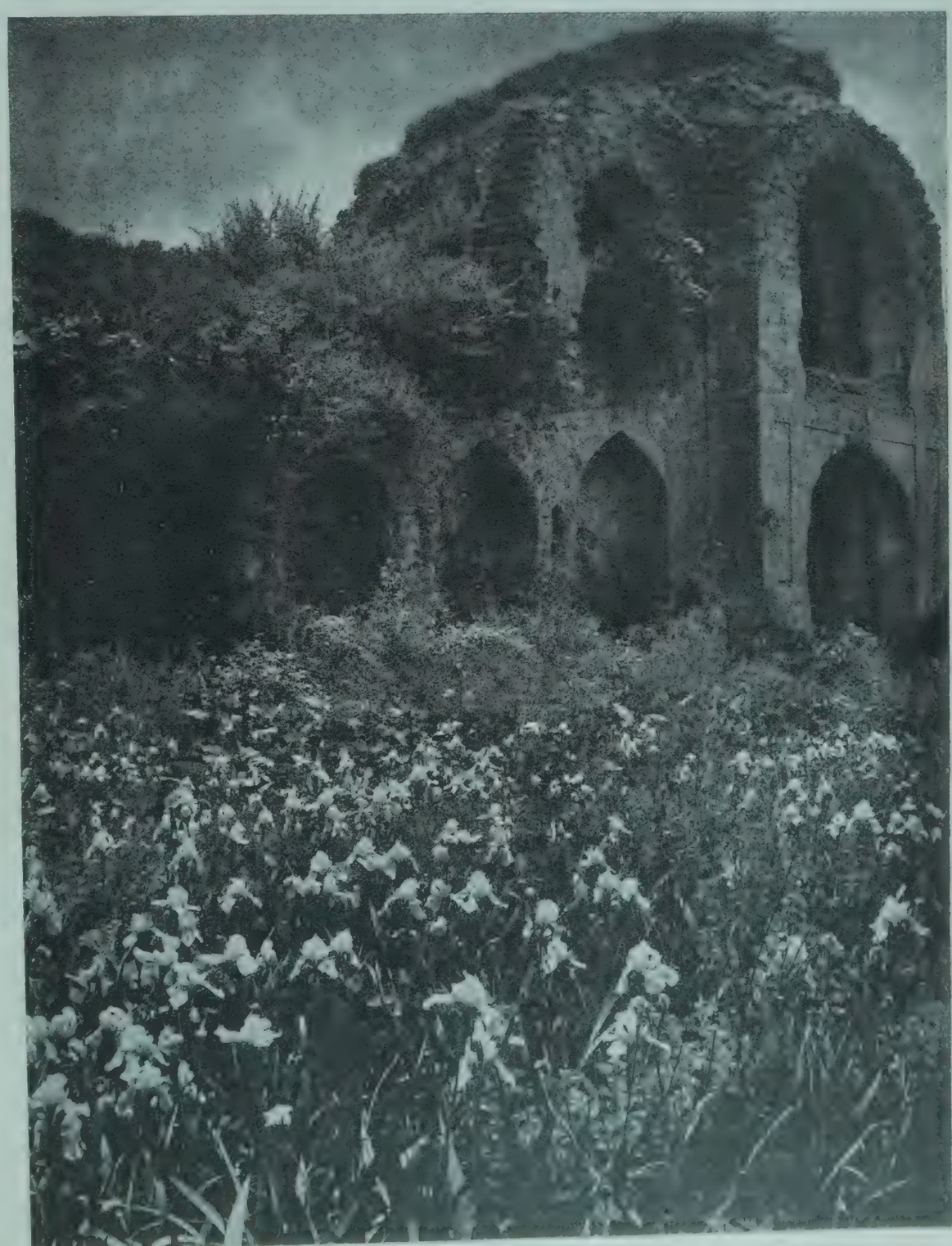
The Iris is an enthusiast's flower. The old-time race of flower fanciers or florists is gradually dying out, and their place is being taken by flower lovers who admire colour and form with a taste which becomes every year more precise and exacting. Who admire them, moreover, in the individual specimen as did the florist of a generation ago, but, unlike him, if the proportion and colouring be beautiful, they care not a jot whether or no the flower attains some arbitratory show-bench standard of form. Their warmest approval, however, is, in general, bestowed on the gracious effects which such flowers as these Irises produce when boldly massed by still water.

In the pure still light of the early morning, when every green sword and form of flower is reproduced with sharp precision in the waters beneath; during the ever-varying light of a summer's day when, with each passing cloud, the iridescent flowers take on new and subtle shades; in the lightly stirring breeze, when the eventide atmosphere grows cooler as the sun sinks lower, and a gentle zephyr ripples the face of the waters, and the reflections become blurred and indistinct in a kaleidoscopic wash, one longs for the art of all the masters to catch the fleeting visions of beauty that the waterside Irises provide. And yet it is better that there is no realism in art that can fix their transient glories. Just because it is not so, because each day and hour produce some new but evanescent colour delight peculiar to the texture and colour of the Iris they are the more desirable to a beauty-loving mankind to whom variety is movement and life; fixity,

"German" and Regelio-cyclus Irises

A selection of the best varieties to date, with reflections on their progress and hints on management.

THERE is surely a fellow feeling between that proud lady, the Iris, and the humble old woman who lived in a shoe. You have only to buy Dykes' little book on Irises in the "Present Day Gardening" series to know the reason why. The number of varieties in the so-called "German" section alone are in number as the sand on the seashore. My eyes were opened by two visits which I paid last year, first to Sir Arthur Hort's manufactory at Harrow, and secondly to Messrs. Wallace's clearing house, then at Colchester. I then realised I had been a sort of Rip van Winkle as far as these Irises were concerned. In the stately language of the Bible, "It was a true report which I had heard in my own land of these wonderful flowers. Howbeit I believed not their words until I came and mine eyes had seen it; and behold the one half was not told me for they exceeded the fame that I had heard," or to put



THE INVALUABLE PARENT OF SOME OF THE NEWER "GERMAN" IRISES, IRIS KAMEMONIANA IN THE COURT OF A RUINED PALACE.

the same fact in the prosaic manner of modern times, "I couldn't have believed it."

In the late eighties of last century I had two large rectangular beds on the rectory lawn filled with samples of the best varieties advertised in dealers' lists. In the course of time they had to give place to the stealthy encroachments of a much younger rival—the Tulip—but their memory remained, and it was not until I paid those historic visits to Harrow and Colchester that I fully realised how nearly all the old favourites had dropped out of self-respecting collections. Madame Chereau, with its dainty picoteed edge of bluish mauve, was one of the very few that I recognised. It was all Lord of June, Anne Page and Drake! There is, to thoughtful men, always a tinge of sadness in the contemplation of the installing of new favourites in the places of the old. It is a hard world.

Its hardness, however, was all forgotten as I saw and walked among the great and glorious grandeur of the modern "germanicas," to use a strictly incorrect but well understood word. One thanked one's stars that one was living when the Iris fashion was in the ascendant and that the painful labours of a Bliss, a Dennis, a Farr, a Hort, a Yeld and a Vilmorin had made possible such sights.

Whether a monograph or a catalogue confers the greater distinction upon a flower would make an interesting subject for a debate at a horticultural club. The answer may be almost entirely of academic interest, but the existence of the monograph and the catalogue is of much practical value. In this connexion let me again mention that excellent little monograph, "Irises," by Mr. W. R. Dykes, who is our foremost authority on all matters pertaining to the family. He is lawyer and confessor in one. He has explored the secrets of the race and so can give advice born of personal practice. All the same, a good catalogue is indispensable, and the Iris has become so important a race of plants that whole catalogues are devoted to it.

The gardener has to do the best he can with the plants he grows, and as "well begun is half done," he has to consider the best time to buy or move them. There is, however, a difference of opinion about this. The best and wisest course is to get the transplanting done as soon as the flowers have gone over, thereby ensuring the production of new roots before winter comes and checks all growth and also a far better display of bloom than could reasonably be expected if the operation were performed either in autumn or spring. If, however, the ideal is not possible, which of these times is the lesser evil? The probabilities are that on a light, warm soil autumn is best, and in a cold, heavy soil, spring. Whenever it is, a position should be chosen where the rhizomes can get sun to give them their yearly ripening.

Now comes the serious question of selection. For what it is worth I append a list of some of those varieties which particularly appealed to me when I saw the collections last year at Harrow and Colchester. There are collectors and colour-schemers; there are matchers and massers; but I, for the time being, was none of these. I just noted those I liked with no particular ulterior object in view. Paulina (a pink-toned pallida), Drake (pale bluey-mauve), Neptune (mauve and purple), Mrs. Alan Grey (lilac), Corida (pale violet), Caterina (lavender), Viola (a deep pallida), Crusader (bicolor, blue-mauve and purple), Asia (lavender and deep mauve) Windham (lovely pinkish lavender), Morwell (pale blue-purple), Miranda (blue-violet), Sweet Lavender (rosy-lavender), Amas (very good mauve and purple), pallida Dalmatica (a grand old beauty, pale blue-mauve), Queen Elinor (a good shapely pink-lavender), Ann Page (pale blue-mauve), Azure (lavender and purple), Bianca (graceful slender stems), Daphne (white and purple). The above twenty impressed me very much, and it will be seen that on account of my great personal leaning to lavender, pale mauve and rosy-lavender shades an adjustment is to some extent necessary. Here is a short list of those I was expected to admire, but which found me "cold": Dominion is too much of a contrast to be really pleasing. I went down in my cicerone's eyes when I did not rave about this five-guinea beauty (?). The others were Ossian (yellow and claret), Mrs. Cowley (pink and rosy purple), Queen Mary (mauve), Isoline (muddled rosy lilac, falls tucked too much under) and Marsh Marigold (yellow brownish-purple, very distinct).

There is not much in whites to beat the hybrids that have been obtained by using the milky white I. Kashmiriana as one of the parents. The two best known are Kashmir White, which I think, I saw at Sir Arthur Hort's, and Miss Willmott. This last does not always come pure, but sometimes pale lilac spots and streaks mark the petals. I have not grown either of these myself, but I am told they are not quite as hardy as the Irises which have been already named. In this respect they may be compared with the Regelio-cyclus varieties, of which more anon. Two tips may be useful and suggestive.

I saw Sir Arthur Hort had some of his beds planted with that latest of all Tulips—the scarlet Sprengeri—and every here and there in the Colchester nursery tall spikes of pink and mauve Lupins stood up among the Irises and looked right well. I am sure ancient writers would have discovered a "sympathy" between the two plants.

Everyone knows or has heard of Iris Susiana. In the earliest ages of British flower-gardening it struck the imagination, and its picture is to be found in almost all the old illustrated garden books of the seventeenth century. It is still a favourite and I am told that a well known nurseryman one year made the experiment of sending coals to Newcastle, inasmuch as he sent a large quantity of cut-blooms grown under glass to the South of France. How far it paid I do not know, but it is a very popular flower in the markets there. Susiana will grow with us all right, but it requires *much* humouring and coaxing before it can be got to bloom. The comparatively new hybrid race of regelio-cyclus Irises have the same quaintly veined blooms and the same sober tones as the old favourite. They are, however, much easier to manage, although not everybody's plants. They need a warm, sheltered sunny position and *deep* well-drained soil enriched with very old cow-manure. I have been very successful with them at the foot of a low south wall where I knocked together a temporary frame, the lights of which were raised on blocks so that there was at all times a current of air passing through.

The cultural round begins in early October and some time before the end of the month the tubers must be planted 1in. deep and surrounded above and below with sharp silver sand. Very little, if any, watering is necessary until some leaf growth has been made, when it must be regularly attended to. When flower spikes begin to appear the lights are removed. At the end of June or early July, when the foliage has become yellow and commenced to die down, the plants must be dug up and slowly dried off in a cool, shady place. When perfectly dry they may be stored in bags and kept warm until October comes round once again. In warm parts of Britain where a frame is not required, the beds must be in some way protected during winter from heavy rain and cold, cutting winds. Boughs of Spruce or anything similar would answer the purpose. My cultivation in the temporary frame was very successful, as I had far more spikes of bloom during the second and third flowering season than I had during the first. They had come fresh from Mr. van Tubergen's nursery in Haarlem in which they originated. They are "done" very well there. After the third time of their flowering frame culture had to be given up owing to the war, and an attempt was made to grow them in the open, but the result was not satisfactory and next year they had to be scrapped. Some day but not, I fear, this year, I hope to make another start. They are such jolly flowers to give to friends because not many people have them, and they open their blooms and last so well in water. They are very interesting to grow because it requires a little scheming and care on our part to get the best out of them. Prices have fallen since I had my collection. All the varieties, moreover, are no longer to be found in any list that I have seen.

The following names may, nevertheless, be of use: Artemis did well without frame protection it is rich purple, much veined. Jocaste (pale reddish brown), Dido (lilac, veined), Mars (purple and Andromache (pale purple with darker falls are especially floriferous. Charon is a very lovely brown. Urania, which I am very sorry not to find, is a magnificent bright purple and very free I had thirteen varieties and I liked them all One will not go far wrong whatever one buys No one offers such an assortment as the raiser Mr. van Tubergen of Haarlem. To those who enjoy adventure in gardening and can find pleasure in surmounting difficulties the culture of regelio-cyclus Irises provides just what they want.

JOSEPH JACOB.

THE CULTURE OF THE CUSHION IRISES

The writer having failed in a previous attempt to grow these beautiful and fascinating flowers, has grown and flowered them under conditions distinctly unorthodox. His treatment is so simple that it should enhearten many to attempt their culture.

A WET Sunday afternoon, passed pleasantly enough with such books as I possess on the subject of Irises, prompts me to preach a heresy. It appears to be agreed among the authorities that the Oncocyclus and Regelia Irises (and the hybrids of these) must be grown outdoors, though preferably with the protection of a frame for summer roasting. Nowhere do I find an advocate of continuous cultivation in pots. Can it be (but surely this were inconceivable) that none among the experts has yet tried to grow these cherishable things in the cool greenhouse and in pots so as to secure that measure of control not else attainable? Or has the method been tried and found wanting? Let me recount my own experience.

I was first led to try my luck with Cushion Irises by reading about them. It must be nearly fifteen years since Mr. Eden Phillpotts contributed his panegyric to the pages of *Country Life*, and, although I was not then so circumstanced as to become at once a disciple of the cult, his reverential enthusiasm made me vow to seize the first opportunity of growing the Oncocycli for myself.

My earliest efforts were unsuccessful. Some dozen rhizomes (for all the world like bits of dry ginger) were planted in a dour Scots garden, and, although in course of time green blades

stoutly, never a flower (or so much as a bud) came forth and the leaves duly died away to reappear no more. Coming later to the more genial climate of Surrey, I resolved to try again. By this time I had made acquaintance with "The Book of the Iris," containing Ewbank's chapter on Oncocyclus. There I read about the need for protection: "A point to be insisted on is that these Irises must be grown in frames." Again the "taking-up system," whereby the rhizomes are dug up after the foliage has died down and put to dry upon the greenhouse shelf, was condemned on the ground that "Oncocycli do not like to be disturbed."

Well, I bought me some more rhizomes—of the best varieties obtainable, yet not, alas! including the most desired of all, Lortetii and Iberica. To tell the truth, I was disappointed with the look of those rhizomes. In my neophytic judgment they seemed wizened incurably. Not a vestige of root was visible. How now, think I, if these things, being rootless as an acorn, are to grow and give me blossom next spring, as I am assured they should, can that which does not exist suffer from disturbance? But *would* they bloom? The doubt depressed me. And so, considering how best to avoid a second disappointment, and bearing in mind all that had been said about the absolute necessity of summer roasting, I resolved to try the experiment of pot culture.

Here is the compost I used: A barrow-load of thin, poor loam from heath land, about 4lb. of bone meal, a good sprinkling of wood ash from the garden bonfire, and about a 6in. potful of mortar rubbish pounded almost to powder. These were thoroughly mixed up, and, using a good inch of small crocks for drainage, I planted my rhizomes singly in 7in. pots, hammering the compost home with a baton, and potting so that the rhizomes were just covered and no more. That was in November. Throughout the winter water was given frequently, but with caution, just enough to keep the soil moderately moist. In due season came the leaves, varying in hue and thickness according to the variety, and then, with one exception, the plants threw buds—and bloomed.

By and by, when the precious flowers had wilted and decayed (I never had the heart to cut them), water was gradually withheld, until, the leaves turning sere and yellow, the pots were placed high out of reach of the watering-can, and the rhizomes left to roast to their heart's content.

Mind you, all this time I was but a rash adventurer. Some pounds' worth of Cushion Irises were in these pots, and I knew not for certain whether I was throwing my money recklessly away, to say nothing of mayhap murdering some of the fairest things in Nature.

Came October and justification! The pots were brought down from the shelf, bone-dry, of course, and to stroke of knuckle, ringing like an anvil. Very carefully I turned out the contents, to find each pot well filled with long, thick, thong-like roots spreading from rhizomes well plumped and rich of colour. Here indeed were roots well worth saving from disturbance, but the spirit of adventure was upon me still, and without compunction I shook from them every last, least vestige of the soil. Some of the rhizomes were at once repotted in fresh compost, and some were smothered in dry silver sand for later treatment.

In the cycle of the seasons all these Irises bloomed again, more lustily than before and with bigger blossoms. To-day they are once more undergoing the baking process on the topmost shelf of the greenhouse. I do not doubt that I shall find all well some two months hence, and if that be so, surely my heresy shall be heresy no

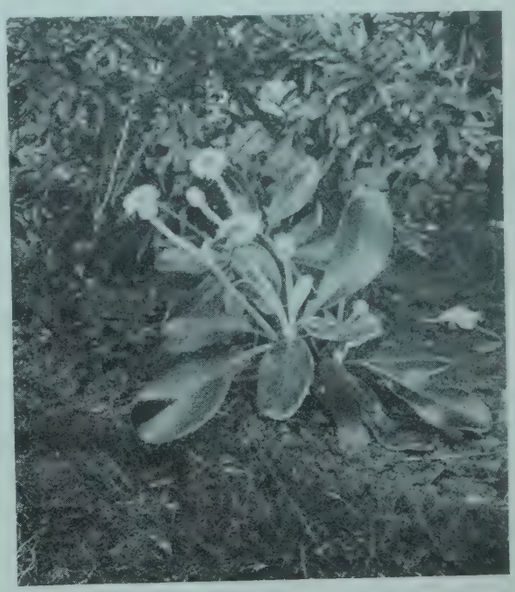
THE DAISY TREES

Some species are not altogether hardy in colder localities, though they withstand cold far better than the much more frequently seen Rock Roses, for example, so that they might well be more largely planted.

ALTHOUGH almost a hundred species of Olearia from Australia, New Zealand and New Guinea have been described by botanists, scarcely a dozen species are to be found in English gardens, and of these one only—O. Haastii—can be termed a common plant. All the Olearias have Daisy-like flowers, generally white, but they vary immensely in habit, type of foliage and size of flower. Olearia Haastii is so hardy that it will flourish even in gardens in the north-east of Scotland where few other New Zealand shrubs would exist. It is a useful plant for massing in wild gardens, as it flowers in August and is then a sheet of snowy blooms, but otherwise it is one of the less attractive species.

O. Gunniana—often called O. stellulata—is a less hardy but much more beautiful species growing about 5ft. or 6ft. high; it has small grey leaves and produces masses of large pure white Daisies in spring. Grown as a low hedge it is very effective and is readily propagated by cuttings. As it is not absolutely hardy north of the Thames, a few young plants should be kept in reserve in a frame in case the old bushes are killed by exceptionally severe frost.

Olearia macrodonta is perhaps the finest species in cultivation; it is a small tree and may be grown as a standard (when the curious peeling of the bark is well seen) or allowed to form a dense bush. The evergreen holly-like leaves are handsome at all seasons, and in May the entire shrub is smothered with the great heads of small Daisy-like flowers. It is only seen at its best in warm districts, where it takes care of itself in the open; it does not look well if trained against a warm wall and evidently appreciates plenty of air all round. It is one of the handsomest shrubs for sea-coast gardens in the south-west.



THE TRULY "REMARKABLE" OLEARIA INSIGNIS.

The somewhat similar, but scarcer, Olearia nitida is said to be a more hardy shrub than O. macrodonta, from which it differs in the entire leaves and the larger flowers borne in smaller racemes on rather long pedicels. It blooms a few weeks earlier than O. macrodonta; it is probably of equal hardiness with O. Gunniana.

A remarkably beautiful species with lilac flowers, called O. semi-dentata, has been exhibited recently and will be a valuable acquisition for sheltered gardens.

O. myrsinoides is a graceful plant with slender, arching branches.

"PERHAPS THE FINEST SPECIES IN CULTIVATION" (OLEARIA MACRODONTA).
Both photographs are of plants at the Cottage, Porlock Weir, Somerset.

Olearia nummularifolia is noteworthy for its very succulent leaves which give it a very unusual appearance, rather suggestive of a small Araucaria. The flowers of this species are rather inconspicuous, but it is well worth growing for its neat habit and remarkable foliage.

O. Forsteri (the Akeake of New Zealand) is another splendid foliage plant somewhat like Pittosporum Buchanani, with its large crinkled evergreen leaves and fine pyramidal habit. It makes an excellent hedge in mild districts. There is a still more handsome variety called robusta, and another with purplish foliage which is rarely seen. The flowers of O. Forsteri are not showy.

The most distinct species of Olearia is O. insignis, which is a low growing shrub with huge grey-green leaves covered on the underside with a dense white tomentum; the large white flowers are borne singly on stout stalks about a foot long. It can only be grown outdoors in very favoured districts in England, but once established it will flower and ripen sound seed. A very well drained site is essential for this fine plant, as stagnant moisture would prove fatal to it. N. G. HADDEN.

The Pleasing Disposition of Horticultural Buildings

Too often greenhouses, frames and potting sheds are, especially in small gardens, sad disfigurements. Follow some hints on their disposal and treatment to avoid or remedy the trouble

THE greenhouse may be treated in three distinct ways to prevent its being an eyesore in the garden. (1) In large gardens it is, quite properly, relegated to the walled kitchen garden with which its structure is quite in keeping. (2) Where, as in small and medium sized gardens generally, this is not feasible, it may be so shut off by hedges, screens, shrubs or pillar Roses as to be rendered innocuous; or (3) it may be so treated architecturally as to make it presentable. In practice it can often be managed very satisfactorily by a combination of methods 2 and 3.

Method No. 1 needs no further elaboration. When considering method No. 2 the subject naturally divides itself into two parts, namely, the placing and arrangement of the structure and the disposition of the screen. For the purpose of explanation the comparatively narrow rectangular type of garden has been taken as exemplar, as this is the most difficult to treat. Where in such a garden it is desired to keep the greenhouse and necessary standing ground near the house, and this is, for several reasons, very desirable, a good method was shown in Fig. 2, page 406, of our issue of August 13 last. Some restriction of the garden view from the house is, of course, inevitable.

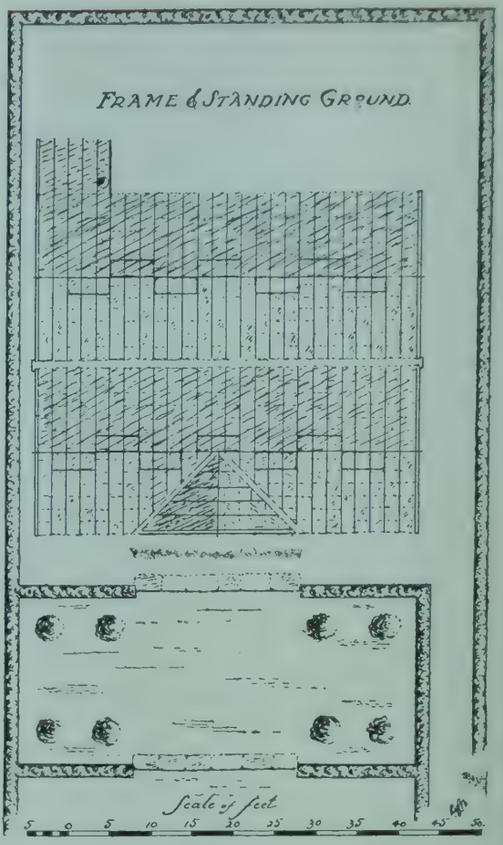


Fig. 1.—In the garden it is displeasing to find a building turning, as it were, the cold shoulder to one. An entrance contrived to front the garden is a great improvement. Hedges and ramblers combine, too, to soften the glare of glass and paint.

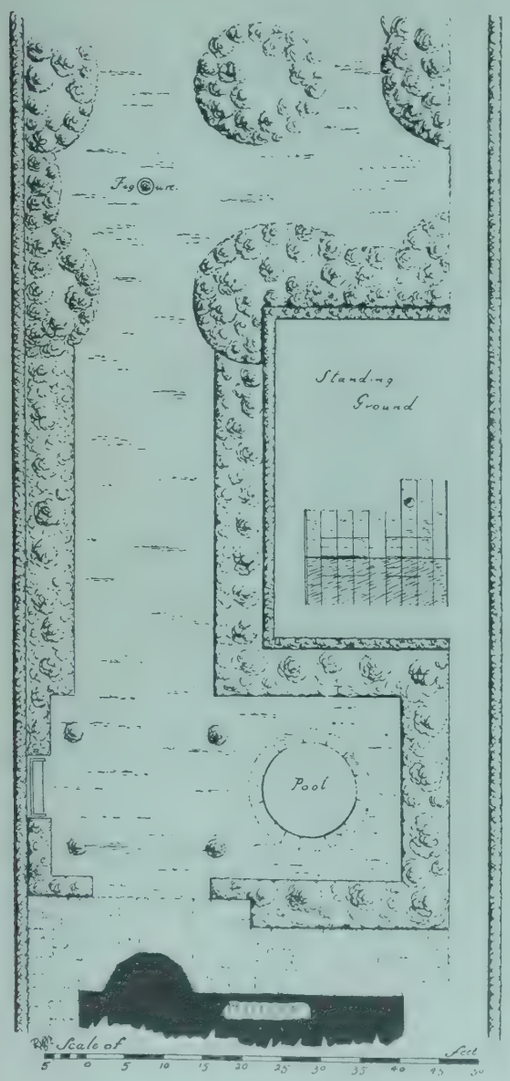
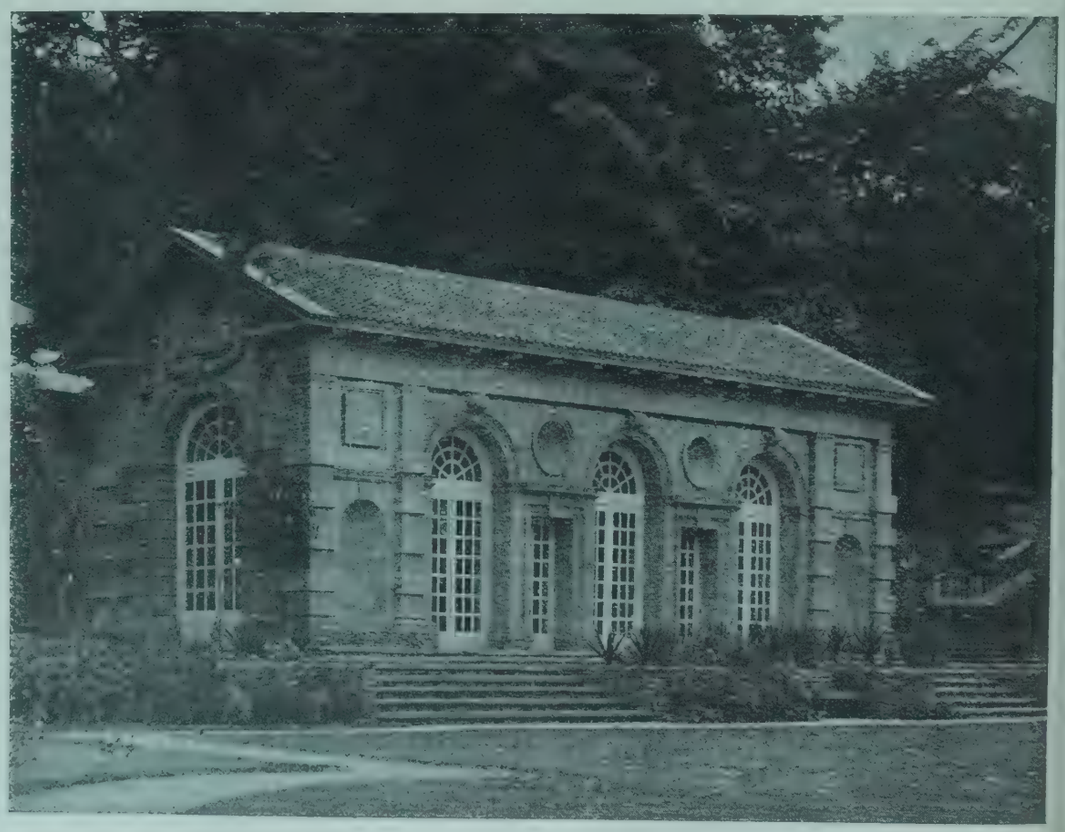


Fig. 2.—The very small greenhouse can hardly be made a feature. If it can be "tucked away" somewhat as here shown, so much the better.



AN ORANGERY IN THE RENAISSANCE STYLE.

The article suggests the use of such a front, less elaborate and heavy perhaps, to mask a range of glasshouses

A glasshouse *across* the garden so near the sidence would be intolerable, which brings us the alternative of placing the house or houses ross the garden at its further end. This may, or ay not, involve their running east and west instead north and south, but this is not a really serious atter. Excellent crops can be grown in such ructures. The frame ground and necessary anding space should be arranged for behind it. a gabled entrance be arranged to front the arden it will add greatly to the appearance of the tructure. A hedge 4ft. or 4½ft. high, of English ew, about 5ft. from the house and broken to allow ccess would improve matters, while Rambler

Fig. 3.—A combined summer house and tool shed that would serve two practical purposes and be a feature of interest in addition.

Roses on pillars would further break the harsh contrast of the white paint and shining glass against the soft greens of lawn and shrubbery, without shutting out an appreciable amount of light. A single shallow step up at the line of the hedge would, in a small garden, be an improvement. When working to a larger scale two or even three shallow steps might be introduced with advantage, in which case the height of the hedge should be correspondingly increased. In the case of gardens of some pretensions in which the garden front of the house has roughly a south aspect, an architectural front might well be contrived to a lobby which, while admirably suiting Palms, Ferns and such things as Cinerarias and Primulas, would serve as a vestibule to the greenhouse or greenhouses proper. The front could be arranged somewhat in the way of the orangeries which were at one time so universally erected. It could have special features in order to keep it sufficiently in harmony with the architecture of the house itself. A terraced effect would, with such a treatment, be practicable, bounded on the north (house) side either by a hedge as before suggested, or by a brick or stone parapet with, if suitable, balustrading. Where kitchen garden is desired, it could well be arranged behind such glasshouses or, if the plot were wide enough, the greenhouses might be set behind it and a wide vista bounded either by herbaceous plants, with a backing of cordon or espalier trees, or by shrubberies, would lead to the main entrance to the glasshouses. In Fig. 1, two good-sized houses are shown, the one nearer the house has a subsidiary gable in which is placed the main entrance. This is all that is necessary to obtain the desired effect, but further cross gables could easily be arranged to allow a vista from the entrance doors through another pair of doors to the further house. A double terrace is shown before the main entrance. The upper hedge might be 4ft. high above the terrace or 4ft. 6ins. high over all, and the lower one would thus stand 5ft. 6ins. above ground level in the garden below. The lower terrace is arranged as a wide grass walk, broken by Rambler Roses on poles, or if these are not liked, Golden

be substituted. Should the garden, happily, be on a considerable slope more steps could be inserted at each hedge line. The ultimate height of the lower hedge would thus be appreciably increased and the greenhouse would be correspondingly screened from sight. Where the garden slopes down away from the house—a very charming and desirable arrangement, be it said—no hedge can well be arranged that will at all conceal the greenhouse without seriously interfering with its light. In such a case the formal orangery front not seldom affords a worthy camouflage, or if the aspect makes this impossible, a clerestory roof will do something to mitigate the eyesore. Where only a small greenhouse is required, for seed-raising and kindred purposes, Fig. 2 will suggest a possible way out of the difficulty. Such an arrangement needs a certain width of garden, and as the main vista has to be arranged for to one side of the house frontage, it would be quite unsuitable for, to take but one example, many thousands of houses in the London area. If a greenhouse is placed anywhere except at the further end of a really narrow strip of garden, such a strip as is usually found attached to a small semi-detached surburban residence, it will inevitably destroy the proper relationship of house and garden. There only remains in such a case to minimise its ugliness by surrounding it, and so breakiug up its uncompromising outline, with Roses and Vines on poles or treillage. On the whole, therefore, in the ordinary suburban rectangular garden, the greenhouse, whatever the disadvantages, will, where appearances are studied, be driven to the bottom of the plot, and as explained, with some little forethought and skill, it may there serve to complete the main vista which, willy-nilly, is the only treatment really suitable for the smallish surburban garden. There are fortunately many gardens even of moderate size which are irregular in shape. In many of these cross-vistas can be arranged and the gardens sometimes extend from the house for a more or less considerable distance in at least two directions. It will then usually happen that a place can be found for the greenhouse where it has the necessary exposure and yet will at once serve to close a vista and be within reasonable distance of a drive or roadway in which fuel and such like can be unloaded.

The greenhouse is not the only building usually met with in gardens which is apt to be uneyeable. In many cases the tool-shed is an unsightly excrescence. In many modern small houses a place for garden tools is provided either in the main building of the house or in a continuous block of outbuildings. There are, however, many small houses where this is not done and in larger ones it would not be

a desirable arrangement. The sketch (Fig. 3) and plan (Fig. 3A) illustrate an effective way of storing tools without disfiguring the garden. The summer house, as well as being picturesque, would be a very convenient retreat in the hot summer days and would, if sufficiently near to the house, be an ideal place in which to take tea or breakfast among the sights and scents of the garden. The structure could, of course, be arranged in a totally different style of architecture if desired, and the summer house portion could be reduced, if wished, to nothing more than a roofed-in seat.

Fig 3a.

An ordinary oblong tool house is apt to be an ugly excrescence, but a pigeon or dove cote may be, and generally is, a beautiful and natural adjunct to the garden, yet the ground floor of such a building can easily be arranged as a tool-house and barrow-shed. Where the pigeon cote would be too elaborate a circular brick building with, if necessary, quaint window openings, its high-pitched roof in thatch or warm red tiles boldly overhanging at the eaves, would be quaintly charming. A circular building can, because it needs no special bricks, be built more cheaply than an octagonal or hexagonal one. The ordinary rectangular type of erection is less easy to make pleasing when totally enclosed, but generous eaves, warm tiles and a substantial doorway will go far to make such a shed, especially when creeper-clad, rather desirable than otherwise.

A PIGEON OR DOVE-COTE OFTEN GREATLY ENHANCES THE CHARM OF THE GARDEN.

The ground floor can be put to various practical use

NEW AND RARE PLANTS

THE Royal Horticultural Society's meeting on September 20 was primarily a vegetable show, but there was an abundance of seasonable flowers. Dahlias and Michaelmas Daisies predominated, but other flowers were present in sufficient variety to make an interesting Show. Mr. H. J. Elwes brought from Colesbourne two dozen spikes of Nerines, nearly all of his own raising. These were all of good form and, what is quite important, possessed good, stout flower-stalks.

A small selection of half hardy plants which thrive in many warm gardens, was shown by Messrs. R. Veitch and Son. These included Chamæbatia millæfolium, a neat, compact evergreen shrub, with finely divided leaves and white star-shaped flowers about ¾in. in diameter. Several Nerines, particularly N. Bowdeni and varieties and N. Veitchii, were shown. N. Bowdeni is almost hardy and may often be grown quite easily under similar conditions to those given the Belladonna Lily. N. Veitchii is of sarniensis type and thus requires greenhouse treatment. It produces a spike, fully 18ins. long, of beautiful salmon pink flowers.

The Floral Committee recommended only one award of merit and a cultural commendation, while the joint Dahlia Committee again selected a number of Dahlia novelties for trial at Wisley.

Carnation Maine's Sunshine is a fascinating perpetual flowering variety, raised in America, and so has serrated edges. It is a compact flower, of soft canary yellow colour, with just a suggestion of citron. Award of merit to Mr. Keith Luxford.

as the Late Dutch Honeysuckle, but bears larger flowers of pale shining golden colour on the lip, which contrasts well with the rosy purple on the outsides. It is also very fragrant. Shown by Messrs. J. Cheal and Sons.

Scabiosa caucasica.—A number of named varieties of beauty and merit were shown. These are true perennials and said to be perfectly hardy. All of them have long stems and graceful flowers. The colours include many nice shades of lavender, blue-purple and lilac. Shown by Messrs. J. House and Son

The following Dahlias were selected by the Joint Dahlia Committee for trial at Wisley.

Novelty.—A very fine Collarette variety of

FLOWERING SPECIMEN AND YOUNG PLANT OF THE QUAINT IRIDACEOUS PLANT, WITSENIA CORYMBOSA.

Witsenia corymbosa is a South African plant which half a century or so ago was fairly common in greenhouses, but has now become quite rare. It might almost be described as a miniature Iris trying to become a shrub. Its interesting habit is well shown in the photograph which, however, cannot depict the uncommon purplish-blue flowers. Cultural commendation to Messrs. R. Veitch and Son.

Erica vagans St. Keverne.—This was shown as quite a tiny plant in the collection of Mr. G. Reuthe. It was freely studded with bright salmon-pink flowers. It was discovered on the Cornish moors not far from St. Keverne by Mr. P. D. Williams some time back, where it was growing equally as strongly as the type. It is a very charming and robust-looking dwarf heather.

Lonicera Heckrottii.—This is one of the new Chinese introductions. It is quite as free-flowering

round shape and bright crimson colour. The short quills are nearly golden.

Brighton Star.—A golden-buff Star Dahlia which is shaded with ruby and this colour is heavy at the outer parts of the petals.

Balcombe Star.—Another beautiful Star Dahlia. The colour is orange-terracotta. These three were shown by Messrs. J. Cheal and Sons.

Matador.—A magnificent pæony flowered bloom of deep scarlet colour. Shown by Mr. C. Turner.

Feodora.—A small, free flowering Decorative Dahlia. The ground colour is golden and this is overlaid and heavily tipped with rosy mauve. This and the following were shown by Messrs. J. Burrell and Son.

Judith.—A charming miniature pæony-flowered bloom of rosy carmine colouring.

Psyche.—Clear yellow Decorative variety of good size and form.

Candida.—A large milk-white Decorative bloom of flattish shape, nearly approximating the pæony flowered section. The stamens are almost hidden by short, curving florets.

Cantab.—A buff coloured Decorative bloom of medium size. The petals are a trifle rolled and disclose the rosy-purple reverse.

Aglaia.—A small Decorative variety of orange-buff colour.

APPLES at the EDINBURGH FRUIT SHOW

NEVER before in the history of this fruit show has there been such a large number of exhibits or keener competition. This was probably due, in the main, to the fact that all exhiitobrs from across the English border were excluded. The number of Scottish exhibitors was thus increased fourfold. This large increase was most noticeable in the Apple section and the quality of the fruit surpassed anything ever before seen here. The heat and sunshine of the past season were reflected in the phenomenal colour shown, while the size of the individual fruits was surprising. Everything served to indicate that the supply of moisture at the roots had been much greater than in the south.

Three new dessert Apples were shown in splendid condition. They are all worthy of trial in the south. These were: (1) Cutler Grieve, (2) Roseberry, (3) St. Madoes Beauty. The first has some of the characteristics of James Grieve, but is flatter and firmer and possibly a better keeper. The second is an improved Worcester, the colour being retained, but the flavour much improved. The third is a beautiful dessert fruit both as regards size and flavour and has good keeping qualities. Among the other desserts, Cox was shown in great form and finish for Scotland. James Grieve was also shown in perfect condition and in three types. A flat, a conical and a highly coloured form with a blush like Gascoyne's Scarlet. Lady Sudeley was also much in evidence.

Among culinary Apples, the most outstanding variety was Castle Major, a very large Apple of the Warner's King type, but with a beautiful blush of pink on the side exposed to the sun. The fruits of this variety were splendidly clean and admirably matched. It also appeared to be firm in texture and likely to keep well into the spring.

Ardross Seedling was also very well shown and, although quite distinct when closely scrutinised might be mistaken for Stirling Castle, which was itself well shown.

Several collections had a dish of an old Apple, very highly coloured and named in every case Old Queen, a variety apparently in existence before the introduction of Saltmarsh's Queen, so well known in the south. This old variety has no resemblance either in colour or shape to its modern namesake.

Peasgood's Nonsuch, Warner's King, Bismarck, Eclinville, Golden Spire and Grosvenor were also well staged and the competition keen.

The report of the new Roses at the National Rose Society's Autumn Show is held over until our next issue.

FORTHCOMING EVENTS.

October 3.—National Chrysanthemum Society's Floral Committee Meeting at the Royal Horticultural Society's Hall, Westminster, at 3.15 p.m. Nottingham and Notts Chrysanthemum Society's Meeting.

October 4.—Royal Horticultural Society's Autumn Show of British-grown Fruit (two days). Royal Caledonian Horticultural Society's Meeting.

CORRESPONDENCE

THE NATIONAL DAFFODIL SOCIETY? AN IMPORTANT SUGGESTION.

SOME notes on the report of the Midland Society in September 17 issue recall the recent suggestion made in the Daffodil world, that the Midland Society should assume the functions of the national Daffodil Society. This is a subject well worthy of public discussion in your columns, for THE GARDEN has always been the Daffodil man's paper. For some reason or other, Daffodil writers have used but little ink lately. Hybridists are quietly at work, plenty of them; very beautiful new seedlings are coming along, the general quality of these is steadily improving, but the Daffodil writer and critic seems to have got a lazy fit. It would be refreshing to see some of these erstwhile writers air their views on the suggestion I have referred to. I have to-day received a letter from an eminent grower and hybridist in the North, from which the following is well worth quoting: "I am inclined to think that the Midland Daffodil Society should become the National Daffodil Society, with the approval and support of other Daffodil Societies that are going concerns. The report could then be amplified and enlarged so as to include reports of the London and other provincial shows, without making it too large and expensive. This is rather badly wanted now that the R.H.S. has dropped its year book, which was fairly good and could have been improved." To all of which I heartily subscribe. Of one thing I am certain, there is no sign of any falling off in popular favour of the Daffodil; in its season we see the shop windows filled with it in ever-improving variety; Dutch nurserymen, wise and far-seeing fellows, are eagerly on the look out for the best of our seedlings for propagating, and a good many discerning market growers in this country have recently turned a watchful eye to the garden of the hybridist and the grower of novelties. The exigencies of war time are well past and over, we hope, and the scourge of eel-worm has been scotched; so that, generally speaking, the omens are favourable. I am afraid I have wandered rather from my point, but in any case it will be quite refreshing to see some "Daffodiller" take up his pen to comment on what I have written.—ORNATUS.

THE SQUIRREL PLAGUE.

MANY years ago squirrels were some trouble here owing to their propensity for gnawing through the fleshy parts of Peaches and Nectarines in order to reach the stone. In those days they were numerous, and as boys we used to have great sport shooting them with a Pea rifle when they started on the Larches in spring time. Subsequently some kind of disease set in; they died in scores, and although they are never molested we now have very few. Pears and Apples they never touched. Blackbirds are some trouble, but are not to be compared with that little pest, the blue tit. Nearly half our crop of "Cox's" has been destroyed this season, and we were obliged to gather the remainder long before they were ripe. This bird, and, to a lesser extent, the great tit, has always been a serious trouble in our orchard. Their numbers were reduced after the winter of 1916, but they have since increased and are now an absolute plague. We are told by those who make protection an absurdity that the damage is caused by want of water. This is not the case, for pans of water were placed in the trees and there is a pond close by. Others state that pecked Apples are not destroyed. This is quite a mistake, as the pecked fruits rot in a few days. Starlings are little trouble, but bullfinches have become a curse not only in the kitchen garden, but on the rest of the estate, where such shrubs as Prunus Pissardi are seldom allowed to bloom. No one would wish to see these beautiful birds exterminated, but during the last few years they have become, in this wooded district, a serious menace to garden crops.—HEATLEY NOBLE, *Henley-on-Thames*.

I CAN indeed speak with feeling of the damage caused in gardens by squirrels. Here, in St. John's Wood, the tame grey squirrels from the "Zoo," have become so numerous as to be a veritable pest to gardens. In mine (where I once rashly fed them) they dug up and ate three successive plantings of yellow Crocus and many other bulbs; they also ate the top shoots and flower buds of all fruit trees, especially Pears, Almonds and Chestnuts, and all flower buds of Roses and Rhododendrons. As they climb

THE THWAITE, ANOTHER VIEW.

anything and bite through anything, it is practically impossible to keep them out, except by close-meshed wire-netting tightly pegged down and completely covering a bulb border. Even then the edges must well overlap, or they use their paws to pull the bulbs through by the grass. What Pears do survive they pick off and eat also. Bud and shoot biting has gone on always, but last autumn was the first time bulbs were attacked. I tried red pepper, but they enjoyed it! In justice to our far prettier English red squirrels, I must say those only go for top shoots of quite young fir trees. I have never known them damage gardens. As a naturalist I consider it a great mistake to allow the grey squirrel to become naturalised, as it ousts the red squirrel everywhere and inevitably becomes a pest.—L. J. VELEY.

THE "HORTUS INCLUSUS" OF JOHN RUSKIN.

A LINK WITH RUSKIN.

I ENCLOSE two pictures which you will, I think, find of interest. They are scenes taken in June last at The Thwaite, Coniston, Lancashire. The garden is the "Hortus Inclusus" of which John Ruskin wrote. It was at that time in the possession of Miss Susannah Beever. The white, pink and mauve Lupins were very striking, and the border of white pinks with a row of Monkshood behind made a gay garden scene.—C. L. MAXWELL.

A HANDSOME UNNAMED TEASEL.

SOME Teasels which attained a height of about 6½ft. appeared a year or two ago in the Botanical Garden of the University of Bristol from seed blown into the garden from an unknown source. Although the armature of the leaves resembles that of the common British Teasel (*Dipsacus sylvestris*) in that the short spines are only found on the dorsal nerve rather than over the whole leaf surface, the leaves are so deeply cut and sessile (Blue forming a [illegible]

that these characters make the plant nearer D. laciniatus. This species is a native of Central and Southern Europe and Western Asia, and in the Bristol examples the large basal leaves are almost as handsome as those of the Acanthus. Its flowers are a very pale pink, and the long involucral bracts are lanceolate and not linear as in the wild English Teasel. From the deep cups at the junction of the leaves and stem a flowering shoot arises on each side. The Fuller's Teasel (D. fullonum) has much shorter involucral bracts and a more cylindrical head than either of the above species. It was occasionally seen cultivated in fields in various parts of Somerset twenty years ago and used in the manufacture of cloth; but a field of Teasels has become a rare sight in the West. I have dried specimens gathered, apparently wild, from Weston-super-Mare in 1817, and from Turf Moor, Somerset, in 1858. But I have never myself seen it thus as an escape from cultivation. There is in my herbarium a very curious variety of Dipsacus sylvestris, gathered in a lane at Bridgwater in 1829 by Thomas Clark, jun., a correspondent of the elder Hooker. The upper leaves are deeply lobed, and the central ones have large serrations, while some of the involucral bracts are three times as long as the unusually small ovate head of flowers. This specimen is in beautiful preservation and as green as some dried twenty years ago. Although forms of the common Teasel with much lobed and cut leaves are seen at rare intervals, I am unaware of any name for the variety.—H. STUART THOMPSON.

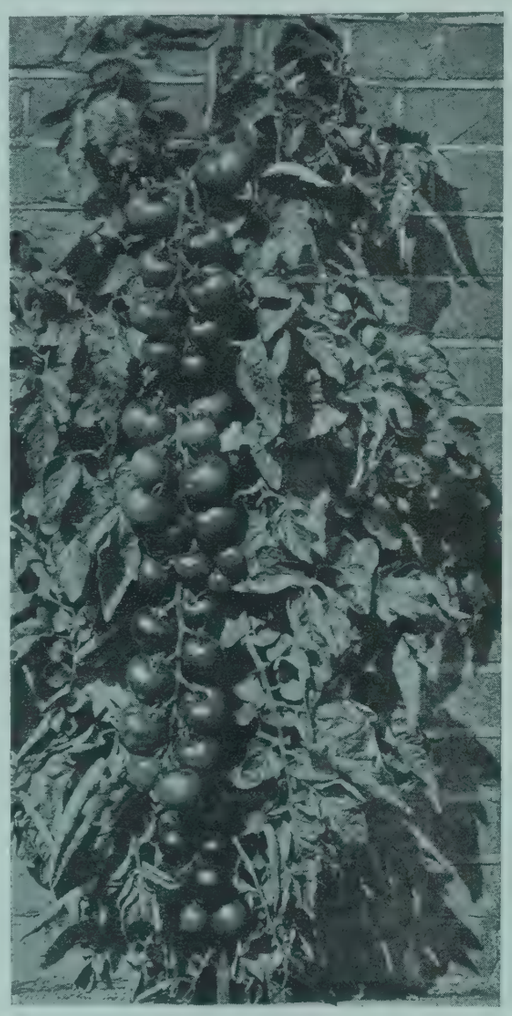
THE MICHAELMAS DAISY AS A DRY WEATHER PLANT.

THE past dry summer has emphasised the value of some of the newer varieties of Michaelmas Daisy over many of the older kinds. On a somewhat shallow sandy Sussex soil, having a few inches only of rich top soil—without any particular preparation or watering—the following have done well: Brussels, King of the Belgians, Queen of the Belgians, Louvain, Mons, General Leman, Robinson V.C., Blue Gem, King George and Beauty of Ronsdorf. Since my one plant of General Leman appears to be identical with "Mons," the latter may have been sent in mistake for it.

Although growing under exactly the same conditions, Brightest and Best, Antwerp and Sam Bauham, which made good growth early in the summer, are now in the "sere and yellow leaf" although fresh growth is appearing at the bases of the plants. This does not apply only to individual plants, since a row of about a dozen Brightest and Best growing beside a row of Blue Gem is but a mass of dying and yellow leaves. Where the former was planted by mistake in another row, the same thing occurs. Brightest and Best can, in fact, be picked out anywhere on this account. Other varieties that are now in bloom, although not in such a flourishing condition as those first named, are—Feltham Blue, Ultramarine, Riverslea and Bessarabicus, while diffusus horizontalis, Cloudy Blue and Thompsoni have only just struggled through, but are giving a few flowers. Other good dry-weather plants in this garden, which, by the way, is a new one and dates it's birth only from last February, are Eriogonum umbellatum (growing on a dry sloping bank), which came from Messrs. Wallace last April; Verbena chamædrifolia, which has flourished exceedingly and bloomed profusely from quite tiny plants obtained from the same source and also from the Hardy Plant Nursery, Merstham, at the same time, and Lithospermum prostratum, on the same bank, but planted in among small stones, which looks green and promising as also does Lithospermum rosmarinifolium. Acæna microphylla has done well on a northern slope amid Hepaticas, but where it was planted on the flat it has succumbed. Verbena venosa, V. radicans and V. tenera, Œnotheras (acaulis, speciosa and macrocarpa), Plumbago Larpentæ and Helianthemums, have revelled in the dry conditions. Among failures must be written down Pentstemon rupicola, Geums, and alas! many more.—EDWD. SHOOSMITH.

OUTDOOR TOMATOES.

AS the enclosed photograph goes to show, the present season in the South of England has been ideal for a full outdoor crop of this much appreciated fruit. Apart from the support of a wall or fence, field culture has been a huge success, the weather being, where sufficient water was available, all that could be desired. Where so many persons err in outdoor culture is in not having their plants in a sturdy condition at planting out time, a period which must be in accordance with the locality. Another mistake often made is in allowing the plants to grow too tall, with a view to securing extra large crops. Many leave stopping until they have secured say six trusses on a plant. Against this can be done, September is well advanced, the nights are getting cold and the sun not so consistently powerful. All too often when the plants collapse owing to adverse weather, the top trusses are quite useless. For myself I allow four trusses to form and then remove the point of the plant, thus concentrating its whole energy on the swelling of the fruit, which goes far to secure a good crop of full sized highly coloured and full flavoured fruit. Many cut the fruit directly it commences to colour. I obtain better flavour by allowing them to ripen fully on the plant. Were the plants in the open I should adopt the early cutting method, but having the advantage of an east wall the plants are not so subject to showers, which cause splitting of the skin and premature decay. In my case the soil in the border is but 10ins. wide and 15ins. deep, being bounded by a road. I annually remove the whole of the soil, replacing it with fresh roadside refuse, leaves and a little horse manure. A slight sprinkling of superphosphate is incorporated in the compost. The plants are well soaked at the roots as they require moisture, never giving too much, in fact I rather err on the opposite side as a means of preventing disease should we experience cold wet weather. I remove all side shoots and do not unduly, as some do, cut away the leaves until the autumn, when light is required to admit the sun's rays to ripen the fruit. The variety is Carter's Sunrise.—E. MOLYNEUX.



TOMATO CARTER'S SUNRISE OUTDOORS AGAINST AN EAST WALL.

PANSIES AT THE GLASGOW SHOW.

THE cult of the show and fancy Pansy is well maintained in the West of Scotland, as might be seen from the competitive exhibits at the recent show of the Glasgow and West of Scotland Horticultural Society. There were a number of entries in both sections and the competition was keen. Yet greater evidence of the hold of these flowers still possess was the groups of growers, mainly amateurs, gathered about the tabling examining and criticising the blooms. Few classes give rise to more discussion than those for show and fancy Pansies. The judges need to be experts, a thing wisely recognised by the executive of this Society. —SHOW VISITOR.

THE ZONAL PELARGONIUM AS A BEDDING PLANT.

I WAS so glad to find such an authority as Miss Jekyll again upholding, in September 17 issue, the use of "Geraniums," rightly placed, for I have been longing to do the same thing. A week or two ago I was privileged to see Mr. Thackeray Turner's beautiful garden on the hill above Godalming. On a brick paved terrace are three long straight beds filled respectively with crimson, scarlet and white "Geraniums"—*nothing else*—each bed a colour to itself. The view from a window at right angles to the terrace along those beds and then over the little town below to the far away blue distance beyond was one not to be forgotten. The plants were a mass of bloom. *Lactus sorte mea* written all over them. Flowers are extraordinarily human and respond like so many children to sympathetic treatment. Those "Geraniums" were happily and rightly placed; nothing else, or so it seemed to me, could have been more effective. I learnt many lessons in garden design that day, but the picture of the terrace, with its beds of "Geraniums" is the one most vividly impressed upon my mind.—W. DUGGAN.

THE BELLADONNA LILY.

THE article and correspondence on the Belladonna Lily in recent issues of THE GARDEN cannot but prove of much interest and value to many who have not as yet succeeded with this noble bulbous plant. In Scotland it seems to require much the same treatment as in the South; that is, it must be planted in a warm, sunny situation in light, but rich, soil, preferably in front of a heated greenhouse or stove or at the foot of a south wall. It is frequently a long time after planting before it produces flowers; it is at any rate a bulb from which one need hardly expect brilliant results for the first year or so. Though not very widely grown in Scotland in the

pen, I know a few places where it has been stablished and where it has generally flowered ell. Our climate is not too suitable for it, as e generally have dry weather at a time when should have plenty of water and abundance f rain when it ought to be gradually drying off. opious waterings in dry summers appear to be ecessary, but drainage should be of the best. erhaps those who have tried what is known s the "Kew Variety" in comparison with the ther forms of the Belladonna Lily can enlighten s as to whether it is more easily induced to lower than these?—S. ARNOTT.

A NEW GLADIOLUS.

MAY I point out that the flower illustrated in the lower right-hand corner of page 469 is Gold Drop and not as stated. I enclose the name card which was attached to the flower. Kunderd is the name of the raiser.—G. W. CHURCHER.

[We much regret the error, which we are at a loss to account for.—ED.]

THE CLIMBING NASTURTIUM.

ALTHOUGH the climbing form of the Nasturtium has been considerably improved, there surely seems room for further developments in this useful, though common flower. There is a pronounced tendency to produce too much foliage and for the individual leaves to be over large, so that numbers of the flowers are hidden. These are sparser than they ought to be in any case. Perhaps because the seeds are so cheap, little attention appears to be paid to selection of the best forms as seed bearers. A great deal could no doubt be done towards producing freer flowering varieties which should show their flowers well above the foliage and so give greater effect. This year, owing to circumstances over which I had no control, plants of the ordinary climbing Nasturtium had to be purchased, and I have had to have recourse to a practice of mine a number of years ago, when I used to cover a trellis in front of a rubbish heap with this useful annual. This was to go over the plants frequently and pinch off all leaves which obstructed the view of the flowers. This effected a great improvement, and the display of bloom was much better than on unpinched plants. This year the practice has been followed with similar advantage. May I also recommend any one who wants a climbing annual Tropæolum to grow the Lobbianum varieties? They are much more floriferous and certainly quite as varied in their colouring. The variegated leaved varieties, by the way, do not seem to grow in favour.—A LOVER OF CLIMBERS.

ANOTHER HEAT LOVER.

THE hot, dry weather which we experienced this last summer has been beneficial to a number of plants, including the delightful Plumbago Larpentæ or Ceratostigma plumbaginoides, as it is often called. Never have I seen it flowering so freely, and during August and September it was a pretty sight, the trusses of deep blue flowers being much admired. It is quite hardy and will continue in bloom until destroyed by frosts. It appears to succeed best on a retaining wall, a position in which it is perfectly at home, and in a few years a plant several feet across may be secured. It is thriving also on a well drained spot in the rock garden, the best results being obtained where it gets the maximum amount of sunshine. The plant grows about 12ins. high and is semi-prostrate in habit, which makes it valuable for wall and rock garden. It is of easy culture and is readily increased by division, while cuttings will also root during the months of August and September [illegible] foliage is often brilliantly coloured.—B.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Delphiniums.—Lifting, dividing and replanting these and other early-flowering herbaceous plants may be carried out from now onwards as the opportunity offers and when the soil is in a suitable condition. Delphiniums delight in a well worked and fairly rich compost and where the soil is of a light character it should be enriched by the addition of some well-rotted farmyard manure.

Begonias.—As soon as the foliage of these plants shows signs of damage by frost they should be lifted and spread out in a cool, airy, frost-proof place for the stems to die off and bulbs thoroughly to dry, after which they may be stored away in dry sand or other suitable material secure from frost and damp.

Rose Cuttings.—Many varieties of Roses (Ramblers particularly), strike readily from cuttings. They may be inserted now in beds of sandy soil. Shoots passed out of flower, with a heel attached are the most suitable for this purpose.

The Kitchen Garden.

Leeks grown in trenches or on the level should be given timely attention in the drawing of some soil around them for blanching purposes as the plants become large enough. Leeks are gross feeders and copious soakings of liquid manure where such can be given them will be of great assistance.

Cauliflowers.—The long spell of hot dry weather almost crippled the mid-season supply of this vegetable, but the cooler days have been more favourable, and good late heads are available in quantity. Where the yield is in excess of demand, the plants should be lifted immediately they are fit for table, and removed to a cool, dark cellar or store, where they will remain in excellent condition for a week or longer. Those heads just "turning in" should, on cold nights, have a leaf or two broken over them to assist in staving off possible damage by frost.

Cucumbers in bearing should have the wood well regulated at this season of the year, by the timely removal of the old and laying in of young healthy growth. This will assist in maintaining the plants with a vigorous root action. Apply stimulants at regular intervals, but do not let them be too strong, and when top-dressing is required let it be of a light, rich character. Cut the fruits as soon as sufficiently large for use and if not required at once it is quite easy to keep them in good condition in a cool room for a week by allowing the stalk of the fruit to rest in water. Try to maintain at all times a uniform temperature with a little humidity in the atmosphere.

Hardy Fruit Garden.

Lifting and Root Pruning.—Before undertaking either of these operations it is well to understand the meaning of them and to realise that they may be and, indeed, generally are, carried out for totally different reasons. Where lifting a tree is contemplated it generally implies that the health of that particular tree is unsatisfactory, and probably a complete remedy may be found by the introduction of a more generous and more suitable rooting medium. On the other hand, root-pruning, which was recently fully treated in THE GARDEN, is undertaken upon trees which are already too luxuriant in growth.

Plants Under Glass.

Begonia Gloire de Lorraine.—The early batch may now be encouraged to show flowers, and overhead syringing should be gradually dispensed with; but moisture between the plants and atmospherically is advisable in helping to keep them clean and vigorous. Keep later batches growing in a moist, warm atmosphere, removing all flower buds and attending to the tying and staking as required.

Fruit Under Glass.

Late Grape Houses should have plenty of warm buoyant air circulating through whenever possible. Maintain regularly a gentle warmth in the hot water pipes, as this enables a little air to be always kept on the house at night. Should watering be necessary, carry it out during the early part of a bright day, having all the air possible on the house at the time. Should the vines have an outside border as well as inside, it would be best, if a wet period sets in, to have it covered with boards or corrugated sheeting so that the rain may be thrown off.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Parsley in Frames.—This indispensable herb is highly prized when the supply can be carried on throughout the winter and spring months. Young plants pricked into frames some time ago will now be growing freely, so the surface soil should be kept well stirred with a small hand cultivator. Dust round the plants with soot and allow the autumn rains to wash it in. Keep sashes at hand for covering should wintry weather prevail.

Salads.—Lettuce in frames should also have the surface soil stirred and kept sweet, allowing plenty of ventilation during fine weather. Mustard and Cress should now be sown in boxes in a warm house, so that nice tender growth may accrue.

Cucumbers.—Late batches will require attention in regard to fire heat, keeping up a brisk temperature, otherwise the plants will quickly deteriorate. Thin out superfluous growth and allow some quick acting fertiliser to assist in finishing the crop.

Trenching.—Where opportunity occurs this important work may be carried out from now onwards, throughout the winter. More especially is it desirable to trench where the land is heavy and where the highest standard of vegetable production is looked for. Such land benefits immensely from autumn trenching and should be thrown up in rough ridges, so that it may be disintegrated by the combined action of frost and sunshine. Choose dry weather when trenching heavy land, as, otherwise, the soil cements and requires double the labour in the spring to put it in good working condition. Plots cleared of Beans, Peas, Potatoes or Strawberries and treated in this way will prove suitable quarters for deep rooting subjects such as Onions, Parsnips, Carrots and Beet.

Late Potatoes.—Lift all late varieties as soon as possible, as owing to excessive rains disease will now readily appear. In saving the seed reject unshapely tubers or others not in keeping with the type being lifted.

Plants Under Glass.

Early-Flowering Chrysanthemums.—October-flowering varieties in pots will now be coming into flower, so should be moved to the conservatory where they will brighten the house until the principal lot are sufficiently advanced for that purpose.

Hybrid Calceolarias.—Transfer these into larger sized pots as becomes necessary, keeping near the glass in cool, frost-proof quarters. Look over the plants in the evenings if slugs are troublesome.

Bulbs.—Additional batches of Roman Hyacinths and Tulips should now be boxed up, also a quantity of the Early Italian Hyacinths. These make a fine succession to the Roman variety and are also delightfully fragrant. They are slightly heavier in spike and are to be commended either for cut flower or bowl culture.

Violets.—If not already done, no time should be lost in transferring these to frames. Lift with a good ball of soil and plant firmly in well prepared soil so that root action will be rapid. To obtain the best results it is essential that the plants should have had the best of treatment during the summer. After planting give a good soaking of water and leave the sashes off until colder weather sets in.

The Flower Garden.

Dahlias.—So long as frost keeps away the Dahlia adds wonderfully to the autumn display in the flower garden. More particularly are the dwarf kinds admired. The tall-growing sorts should be well attended to in the way of tying as their soft growths are easily damaged by the autumn gales.

Lawns.—Growth should not be troublesome now, but any part yet to be scythed should be run over before the leaves fall in quantity. Where the rough grass is mown late in the season it considerably lightens the labour of clearing up the leaves. Edges of paths should also receive their final trim for the season, and should the paths be untidy an effort ought to be made to have them cleaned during the first dry spell.

Roses.—Bush Roses in many cases have made extra long growths this season, so where it is not advisable to shorten the shoots meantime they ought to have the benefit of a stake to protect them from the wind.

JAMES McGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock

A Buff Erigeron.—Erigeron Asa Gray is not by any means a novelty, yet it is still scarce enough in gardens to deserve notice. It is a good border Erigeron of quite distinct colour and its flowers are of good size. Their peculiar shade of colour has been called "biscuit," but it is often described as "apricot-buff." Were it not that "biscuit" is so indefinite, it might pass, but apricot-buff seems rather too deep a shade. The colour is, anyhow, very distinct and the plant attractive enough to merit inclusion in a good border. It is seldom that one meets with more than one or two plants in a garden, yet it must be obvious to those who know the variety that a dozen plants or so, planted a little apart and allowed to grow together, will give a much more satisfying effect than three or four only. It is hardy and seems to love a rather light soil with some sun.

The Royal Horticultural Society's Vegetable Show.—Whatever doubts and fears the Council may have entertained concerning the success of the annual show of vegetables arranged for September 20, they must have been gratified by the exhibits staged, for, although it was necessarily on a smaller scale than in former years, the general quality was very high indeed. It is not an easy matter to arrange cold and raw vegetables in a manner to arouse enthusiasm, but those responsible for the collections almost, if not quite, succeeded. From the spectacular point of view the collections in the competitive classes were rather outshone by the large gold medal exhibit of Sir William Cain of Wargrave Manor, whose gardener (Mr. C. Moore) made a most attractive display with large quantities of seasonable vegetables of high quality. In the competitive classes, however, the quality ran even higher. The first prize collection by Mr. J. Jones from Ammanford, which also won the Sutton Cup, as being the best collection in the Show, was admirable in every respect. For some time a class has been arranged to illustrate the quality and size of vegetables which are most acceptable for the table. Here the first prize was won by Mrs. Jenner of Wenvoe Castle, Cardiff, whose gardener (Mr. H. Wheeler) is well known as an expert cultivator of fruit and vegetables; and Mrs. Jenner also won the Royal Horticultural Society's Champion Cup for obtaining most points in the whole Show. Most of the prizes were won by competitors from the western counties, and without desiring to appear to detract from the undoubted skill of these exhibitors, we would like to point out that, in part at least, the superiority of their vegetables is due to the greater amount of atmospheric moisture that the western counties have enjoyed during this exceptionally dry season. Artificial watering can, and does, supply moisture to the roots, but it cannot supply the atmospheric moisture that is so essential for plant growth. By reason of their disposition the high quality of the vegetables in the classes for single dishes of all the seasonable kinds was readily apparent. In spite of the difficulties attendant on cultivation during the drought, we doubt whether ever before Carrots superior to those of the present occasion have been exhibited. Beans of all types were also of high quality, not only of the prizewinning dishes, but throughout the classes, and of Runner Beans there were no fewer than fifteen dishes. Onions were superb, and so were Leeks, while Tomatoes were very abundant and of perfect shape and colouring. Not less instructive than recording successes is a review of the failures or comparative failures. As might have been expected, Peas were of only moderate quality, while Celeriac was deplorably bad. Brussels Sprouts were quite as good as could be expected, though inferior to past years. Cauliflowers, except for the first-prize heads, were, as was to be expected, of but moderate quality.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

CHIONODOXAS IN FIBRE (M. M., Welwyn).—These pretty little spring-flowering bulbs may well be grown in fibre. They will be most effective in rather shallow receptacles. Bulbs may be obtained from any reliable seedsman.

SELECTION OF BORDER CARNATIONS (Penrhyn).—The following will be found a good half dozen Border Carnations in different colours. Rosy Morn (rose pink), Border Yellow, Bookham White, Brigadier (scarlet), Basuto (crimson) and Mrs. J. J. Keen (fancy, yellow edged with rose pink).

PINKS FAILING (I. W., Murrayfield).—The Pinks appear to be suffering from the drought, and no doubt many of the roots died during the very dry weather, so that the trouble is continuing even now the rains have come. The best thing to do will be to give the plants a top-dressing of good soil so as to encourage the stems to produce fresh roots. This, we think, will save them. Work the soil well into the plants.

ANNUAL ASTERS DISEASED (Mrs. E. E. D., Tiverton).—The sudden withering of Asters is due to the attack upon the root and the lower part of the stem of a fungus, a species of Phytophthora allied to, but not identical with, the one that causes Potato disease. No cure is possible, but the maintenance of perfect drainage and the avoidance of planting in soil where diseased plants have grown are aids to checking its spread, and it is wise to sterilise, by baking or pouring boiling water upon the soil in which the seeds are sown and the young plants raised.

CARNATIONS FAILING (M. Anwyl).—There is no fungus or insect present on the Carnations to account for their spotted appearance, nor do we think there has been. It is due to some cultural error, and you are probably right in ascribing it to overwatering. Carnations need efficient and ample drainage, and it is quite easy to give them more water than they require, especially when they have been newly planted.

RAISING DELPHINIUMS FROM SEED (M. M., Welwyn).—The seed should be sown thinly in February in well drained pots or pans of light, leafy soil and placed in a warm greenhouse. If well looked after these seedlings should flower during the following autumn, when the spikes will give valuable variety to the flower border. It should be borne in mind that the Delphinium responds to liberal feeding. An open situation, sheltered from rough winds, is the best for them.

ARTEMESIA STELLERIANA (C. E. A., Ottery St. Mary).—It would be scarcely wise to severely prune this silvery foliaged plant at this season. If it has become very untidy a few of the more straggling growths may be cut off and in the spring the plant may be safely reduced to any desired size, when it will soon break into growth and make a compact little bush. Its habit is somewhat trailing, so if it is desired to keep it shapely, annual pruning must be practised. It is a deciduous subject.

HERBACEOUS PLANTS FOR A DRY BORDER (E. M. S., Sidcup).—Any of the Sunflower family, such as Heleniums, Helianthus Miss Mellish, Rudbeckia Newmanni and R. Golden Glow are suitable for the position. Other tall and medium sized plants that may be safely used are Anemone japonica, Bocconia cordata, Campanula lactiflora, Centranthus ruber, Echinops Ritro, Eryngium Oliverianum, Salvia uliginosa, Pentstemon (florists varieties), Liatris pycnostachya, Statice incana, S. latifolia and various Verbascums. For the front part of the border a selection may be made from Alyssum saxatile, Artemesia tinctoria, Dianthus in many varieties, Linum flavum, Megasea cordifolia, Nepeta Mussini, Plumbago Larpentæ, Polygonum affine, Potentilla (garden varieties) and Thymus Serpyllum. If an appreciable quantity of humus can be added to the border it would be found possible to grow a wider range of herbaceous plants. Whenever possible all planting should be done in the autumn, the plants made very firm and the surface soil hoed frequently during the spring and summer. Attention to these details will add greatly to the success of the border.

THE CAPE GOOSEBERRY (Torquay).—If grown in a cold greenhouse in South Devon it is quite likely that the Cape Gooseberry (Physalis edulis) would become "rampant" and not bear many fruits. The best way to get a crop of fruit is to grow it as an annual in the open garden. Seeds should be sown in a greenhouse in February, and when large enough, the seedlings potted into 3in. pots. A compost consisting of moderate loam, to which a fair proportion of leaf-mould and sand has been added, would be suitable, while the potting should be moderately firm so as to obtain sturdy, short-jointed plants. When these pots are full of roots the plants should be planted out of doors 3ft. apart in an open situation in rather poor soil. Only sufficient water to keep them alive should be given during dry periods, otherwise the plants will make an abundance of growth and bear only few fruits. The planting should be done as firmly as possible. Should the plants become congested the growths in the centre may be removed and, as the season advances, it will probably be found that the support of a few stakes is necessary.

TREES AND SHRUBS.

THE MYROBALAN PLUM (Mrs. J. B. L., Surrey).—Known botanically as Prunus cerasifera, this tree is more grown as a useful hedge plant than as a commercial fruit tree. It is seldom or never included among dessert fruit. It is described by Nicholson as follows: "Fruit very small, oval, yellow, mottled with red, and covered with a light bloom and marked with reddish spots on side next the sun; flesh deep yellow, firm, briskly flavoured; ripe middle of August." The fruit is valuable for culinary and preserving purposes. The tree is easily grown and is best adapted to the pyramid form of growth. There should be no difficulty in obtaining trees of it from any well known nurserymen. Bracken may be obtained from Mr. Amos Perry, The Hardy Plant Farm, Enfield, Middlesex.

PLANTING A SLOPE WITH TREES (Genista).—Even though the work has to be done economically the planting of a slope rising from a stream is full of interest and capable of being a great attraction. A water-way always has great possibilities, and although it seems that, for the present, the available funds will not permit the planting of any choice shrubs and other water-loving plants, it would, perhaps, be wise to plant in its proximity with an eye to the future, when there may possibly be an opportunity of developing this feature more fully. In fact, the whole of the planting might well be done on these lines. This being so, and, indeed, in any case, the suggestions that we are able to make can only be general, especially in the absence of any clue as to the extent of the area, it is proposed to plant. On the lower part of the slope in the neighbourhood of the water such trees as the Deciduous Cypress (Taxodium distichum), the Alder, Willows and Picea sitchensis might well be planted and immediately followed by Acer macrophyllum, Betula alba, Cryptomeria alba, Picea alba, Pinus Cembra, Populus alba, P. balsamifera, Pterocarya fraxinifolia, Quercus coccinea, Thuya gigantea, Tsuga canadensis and Ulmus montana. Any of these trees could very well extend from quite near to the stream to fully half-way up the slope. Then would follow for the upper stretch a selection from Abies cephalonica, A. pectinata, Acer platanoides, Betula alba, Castanea sativa, Cupressus Lawsoniana, Ilex Aquifolium, Larix europæa, Pinus morinda, P. Cembra, Populus monilifera, Quercus pedunculata and Ulmus campestris. As we have already suggested, the disposition of the trees must be a matter for decision on the spot, and after full consideration of all the circumstances. If the slope is of fair breadth the best general effect will be obtained by group planting, the numbers being governed by such circumstances as the view point, the species, area allotted and the total number of species employed. As a general rule it may be taken that it is best to plant a limited number of kinds, making the groups fairly large, while associations should, necessarily, be the subject of careful consideration. In view of the formation of the area autumn planting will be found the most successful and the preparations should be as thorough as circumstances permit.

MISCELLANEOUS.

A STICK-CATERPILLAR (W. H., Redhill).—The insect is the caterpillar of the pepper and salt moth—Amphidasys betularia. Several moths have stick-like caterpillars which are so like twigs when at rest that they are protected, at least partially, from the attacks of their enemies.

ERADICATION OF YARROW (M. M., Welwyn).—So far from it being the case, as our correspondent seems to believe, that Yarrow "is flourishing on lawns in spite of the drought," the great preponderance of Yarrow is due to the drought. Generally the growth of the grasses has been practically at a standstill for a considerable time, but the Yarrow, which is exceptionally able to withstand dry conditions, has been able to spread; so much so that in a number of instances the patches of Yarrow have provided all the "green" that the lawns have possessed. Now that heavy rains have been fairly general it should not be a difficult matter to eradicate the Yarrow, or, at any rate, keep it severely within bounds. Luckily, in spite of its ability to grow and remain fresh and green during prolonged periods of drought, the Yarrow (Achillea millefolium) is easily rooted out, so unless the lawn is unusually large, the best plan would be to grub it out with a Daisy weeder, fill the holes up with a little fresh soil and sow grass seed. Should this plan be considered too laborious the Yarrow can be destroyed by applications of any of the lawn sands prepared by the well known horticultural chemists and sold by all nurserymen and seedsmen.

NAMES OF FRUIT.—A. Mc.D, Stranraer.—Apple Glory of England.——E. A. M., Torquay.—Apples: 1, Lord Suffield; 2, Duchess' Favourite. Pears: 1, Josephine de Malines; 2, General Todleben; 3, Souvenir du Congrès; 4, Pitmaston Duchess; 6, Beurré Hardy; 9, Glou Morceau; 10, Marie Louise d'Uccle; Easter Beurré, number not found.——A. E. C., Ledbury.—Pears: 1, Beurré Hardy; 2, Marechal de la Cour; 3, Marie Louise; 4, Doyenne du Comice. Apples: 1, Mannington Pearmain; 2, James Grieve; 3, Cox's Orange Pippin; 4, Winter Peach.——T. C. B. C., Kendal.—1, Keswick Codlin (Improved); 2, Cox's Pomona; 3, Gloria Mundi.——A. G. W.—1, Yellow Ingestrie; 2, Reinette de Canada.——S. D., Pitlochry.—1, Fearn's Pippin; 2, Brown's Codlin; 3, Probably Lord Suffield, the specimen sent was malformed; 4, Potts' Seedling; 5, Peasgood's Nonsuch.

NAMES OF PLANTS.—H. N., Henley-on-Thames.—1, Hibiscus syriacus totus albus; 2, Crab John Downie.——H. M., Ross-shire.—1, Rose Leuchtstern; 2, Calluna vulgaris Alporti.——Torquay.—1, Cannabis sativa (common Hemp); 2, Trachelospermum jasminoides.——A., Hants.—Tecoma radicans.

THE GARDEN

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NOTES OF THE WEEK

OUR readers will hear with regret of the death of that grand gardener Mr. George Paul, who was a familiar figure to many garden lovers, especially of the older generation. His wide and deep knowledge of matters horticultural and, even more, the love and service he devoted to the craft, will make his loss a very real one to many who had not the privilege of knowing him personally. A brief appreciation by Mr. W. Easlea appears in our "Correspondence" columns.

Autumn Tints.—Though it is not possible freely to treat so wide a subject in one issue, it is hoped that the notes on autumnal colour effects may be of general service. Would that one might illustrate such notes by suitable garden scenes in their natural colouring! This being beyond the range of possibility, recourse has been had for illustration to photographs of fruiting and flowering sprays, but, even so, readers must do their part by calling on the imagination before the contrasts in colouring can be appreciated. Perhaps on second thoughts this is a good thing! One can, after all, be fed on too much "peptonised" knowledge.

Contending Forces.—The production of autumn effect is not an exact science. It is, indeed subject to more and greater external causes of disturbance than are most other garden schemes. As far as dependence can be placed upon herbaceous plants, the ordinary difficulties of the gardener have alone to be faced; indeed, such autumn-flowering plants are as easy to grow and, in general, less subject to pests than other plants of a similar nature. When, however, we turn to the shrubs and trees, which, after all, should be the chief feature of the autumn garden, we are at once "up against" a number of probably antagonistic factors against which it is peculiarly difficult to strive.

The Unforeseen.—Such factors are soil, climatic conditions (both local and seasonal), and the depredations of birds and small mammals. There are, indubitably, soils on which shrubs and trees do not colour satisfactorily. Generally speaking, where golden evergreens (particularly conifers) colour well in spring, deciduous plants will be brilliant in autumn. This is a matter which would

A FINE DISPLAY OF BORDER CHRYSANTHEMUMS.

but many authorities rely a good deal on the presence of iron salts in the soil. Our own experience leans rather to the view that warm, fairly light soils produce better colouring than heavier and consequently colder ones, provided, of course, that good cultivation is given, but probably other factors are present in addition. As regards climate, the general level of autumn colouring is universally recognised to vary from season to season, though the predetermining causes are as yet imperfectly understood. Then, again, local weather conditions make a big difference, so that in such a season as the present, the brightest autumn tints may be expected in the regions which have suffered least from drought. Gales and early frosts, particularly the latter, often destroy the picture before it has reached its fullest beauty. Something may be done by judicious selection to obtain ornamental fruits which will not disappear as soon as or before they attain maturity, but where birds are most numerous it is very little. The Sea-buckthorn fruit is unattractive in colour to feathered marauders, so that the berries are fairly immune, but the flower-buds are, alas! often attacked by tits and bullfinches. Black cotton may easily be used to protect from birds Cotoneaster horizontalis and some other dwarf Cotoneasters and Barberries; but suppose the voles, which are such a plague in some neighbourhoods, attack them! Most birds leave the Holly berries until hard weather limits their choice, but where pheasants are numerous neither these nor any kind of "hip" will long remain.

It is Worth While!—Perhaps after all we paint too gloomy a picture. With every discouragement and the losses which every season we deplore it is noteworthy that where real pains have been taken to plan an autumn picture it is seldom that the result is anything but beautiful "Not so beautiful as such or such a year!" or "Less charming than if . . ." but none the less very beautiful and charming as it is. Moreover, there is no need to plant solely for autumn effect. It is quite possible to use plants which have at least a two-fold beauty. Think of our Hollies, Barberries and Azaleas!

A Note for Planters.—Many fruiting shrubs are, it is well known, diœcious, but it is less often realised that many monœcious or hermaphrodite species are self-sterile, and as such species have often been much propagated vegetatively, it is not unusual to find, say, some species of Barberry flowering freely but fruiting not at all. The only cure in such a case is to procure more plants from, if possible, a different source. Such things as Hollies, Pernettyas, Skimmias, Euonymus, Hippophæas and Aucubas need especial care to see that male plants are included in the group if they are not to be found in the vicinity.

The Autumn Rose.—The Rose is becoming increasingly popular as an autumn flower, which, considering its comparative immunity at this season from the devastating caterpillar and, in the cooler days now prevalent, its more enduring charms, can hardly be wondered at. The bane of the autumn Rose is mildew and buyers should carefully scrutinise new and unproved varieties or sorts unknown to them for indications of this pest. It would unquestionably add to the popularity of the flower and hence be of ultimate benefit to themselves if raisers would reject as unworthy all new varieties prone to its ravages. At least one of the new varieties at the Autumn Rose Show which received a certificate of merit was infested. It was surprising that it should have been shown in such a condition, more surprising that it received an award. A good constitution is to my mind the sine qua non of garden

AUTUMN EFFECT in the GARDEN

To obtain beautiful garden pictures at this season one need sacrifice no jot of spring or summer beauty.

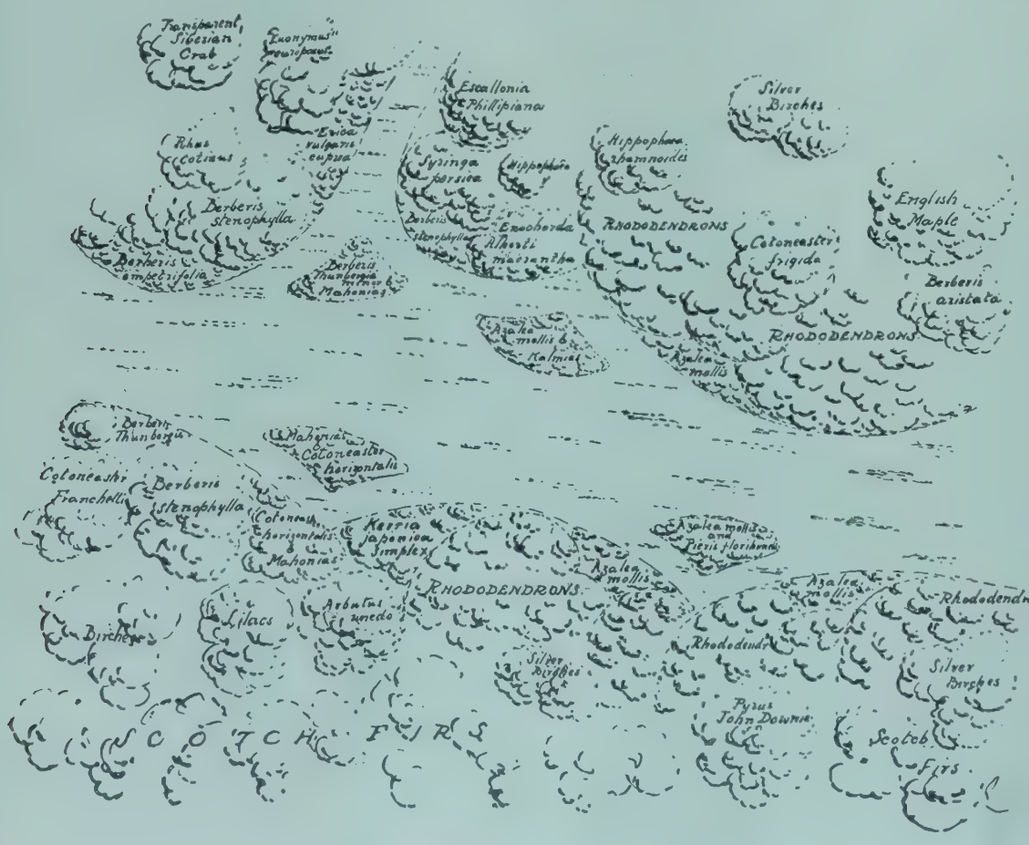
AUTUMN flowers have a character of their own, their colour tones being, in general, more subdued than those of summer. Shades of mauve and purple, more or less tinged with pink, and bronze, old gold and ivory now predominate and harmonise charmingly with the russet and pale gold hues of the changing leafage of our timber trees.

Like a well planned herbaceous border, Nature's annual colour scheme changes from the soft, clear shades of early spring to the relatively strong and rich colouring of summer and so to the "art" colours, as they are sometimes so vainly called, which distinguish the season of the fall. The sunset skies at eventide and the misty, softened light of morning alike form suitable settings for the tints which now preponderate in our gardens, just as the clear, chill light of the morning in early spring shows to advantage the purer blues and chaster whites of the wakening year. We may prefer—it is a natural and healthy preference—the crystal clearness of line and purity of colouring of springtime to the more opaque atmosphere and duller tones of autumn, but it is futile to fight against the natural harmonies.

We cannot, if we would, change our background; so that, for the sake of harmony, we must, in our gardens, use the prevailing tones. Despite the shortening days, many people find this a delightful season of the gardening year. There is, as yet, no shortage of flowers even outdoors; the Dahlia and Chrysanthemum see to that; the deciduous trees have taken on their golden, russet and vermilion mantles, and fruits and berries of many shapes, sizes and colourings give gracious colour. It is to be feared, none the less, that in too many gardens sufficient use has not been made of shrubs and climbers beautiful at this season either for their fruit, their autumnal colouring or, occasionally, for their blossom.

The number of trees, shrubs and plants with beautiful fruits in autumn is legion. Leaving quite aside ordinary culinary Apples and the cider fruit which make glorious so many west-country orchards, but which succeed almost everywhere, there are the Siberian Crabs with their red and yellow fruits. What can be more beautiful than the common red Cherry-Apple, as it is often called, or a well grown tree of the Transparent variety, its branches roped with fruit? Then there are many Rose species whose "hips" are delightful, none more so, perhaps, than those of the wild Dog Rose which adorns our hedges in June, yet the tight bunches of R. rubrifolia ferruginea against the background of ruddy, glaucous foliage are very charming; so are the more bloated, but very glossy, hips of the Japanese Roses, and all these are beautiful in summer as well. The huge family of Barberries has, without exception, beautiful fruits. To the purple bloom-clad berries of Berberis Darwinii and B. stenophylla and the pendent glossy red fruits of B. vulgaris and B. Thunbergii—both, but especially the latter, remarkable for autumn colour—have now to be added the berries in varying shades of coral from members of what may be roughly characterised as the Wilsonæ group, comprising such beautiful and diverse species as Wilsonæ itself, subcaulialata, brevipaniculata, dictophylla, polyantha and

A YOUNG PLANT OF ILEX PERNYI, SHOWING THE BEAUTIFUL FRUITS.



AN ARRANGEMENT OF TREES, SHRUBS AND RHODODENDRONS, WHICH WOULD BE EFFECTIVE IN AUTUMN.

Prattii. The blue-black berries and richly coloured foliage of the Mahonia (B. Aquifolium) are well known, but not too well appreciated. It is doubtful if any of the newer introductions to this section of Barberries are equally effective. Before leaving this fascinating family, mention must be made of the effective bloom-covered red fruits of B. aristata, of the almost black fruited B. empetrifolia which forms a charming little rockery shrub and of B. Gagnepainii which produces quantities of black berries with a blue bloom. All the Berberis family are beautiful when in flower, and if in some, notably the vulgaris and Wilsonæ types, the flowers are not conspicuous, the varied beauty of leaf, stem and spine more than makes atonement.

Another immense family of berry-bearing plants, the Cotoneasters, which vary in size from small trees to minute shrubs for the rockery, is partly evergreen and partly deciduous. They agree in this that they all, at any rate when mature, bear quantities of charming berries in autumn. C. frigida attains the stature of a small tree, and its handsome foliage well sets off the great bunches of red fruits, which, where birds are not troublesome, will remain on the tree until and after it is once more in flower. C. pannosa and C. Franchetii are both graceful shrubs with red fruits freely produced, but covered with a dense tomentum which somewhat impairs their beauty. C. Simonsii is a well known and hardy shrub with pretty berries, but it is less graceful than

any species. C. multiflora is chiefly remarkable r the conspicuous flowers which clothe its ranches in spring and early summer, but it is eautiful also when in fruit.

Of those of more spreading habit, C. horizontalis ith its curious sail-like growths thickly studded ith ruddy fruits and glossy leaves, which a little ter turn brilliant red, is the most desirable; ut the tiny C. adpressa, the trailing C. humifusa nd such distinct and beautiful species as ongesta, microphylla, thymæfolia and rotundi-olia are all, in their place, desirable.

Nearly related to the Cotoneasters, the Thorns, f which our English Quickthorn, with its eautiful, if variable, haws, is a good example, re valuable for their autumnal effect. The louble varieties of the native plant do not, of ourse, fruit, but the beautiful single scarlet (Cratægus Oxycantha coccinea) bears freely and s on that account the more desirable. Of alien leciduous species C. Korolkowi, with quantities of very large deep shining red fruits, is probably the most noteworthy for our purpose; but Carrierei, cordata and Crus-galli are excellent, and tomentosa, though its orange coloured fruits are not showy, is noteworthy for its brilliant autumn colouring. The evergreen species of Cratægus are better known to gardeners as Pyracantha. Pyracantha coccinea is a very well known shrub, generally seen trained against a wall, where its glossy coral-red fruits are sometimes so numerous as almost to obscure the equally glossy dark green foliage. It hardly fruits so freely in the open, but it is none the less worthy of culture so treated. The variety Lalandei is more often seen in the open. Perhaps its more erect habit of growth may account for this. Its brilliant orange fruits are very beautiful. The plant known until recently as Cotoneaster angustifolia is now, no doubt rightly, classed with the Pyracanthas. It does not appear to produce its orange-yellow fruits very freely in the open ground, but as the young growth gets badly cut by frost almost every winter, this may account for its not fruiting well. It is a fine shrub on a south or south-west wall.

Of the Pyrus family—noteworthy as it is for its brilliant autumn colouring—but few species have really conspicuous fruits. Such are the Rowan (the so-called "Mountain Ash"), whose fruits make beautiful many otherwise barren tracts in Scotland. There are several varieties, including a brilliant orange fruited form called, not too appropriately, fructu-luteo. Closely allied is the beautiful, but smaller growing, P. Vilmorini, whose fruits are of a distinct rosy red shade.

The beautiful orange berries and contrasting silvery grey foliage of the Sea Buckthorn (Hippophæa rhamnoides) are familiar to most.

The Elders (Sambucus) are rather coarse-growing shrubs and small trees with an unpleasant odour if touched. For autumn effect scarcely anything can beat the red-berried variety when and where it happens to fruit freely. The common Elder and its white variety are handsome when in fruit, but their seedlings are an intolerable nuisance in the garden.

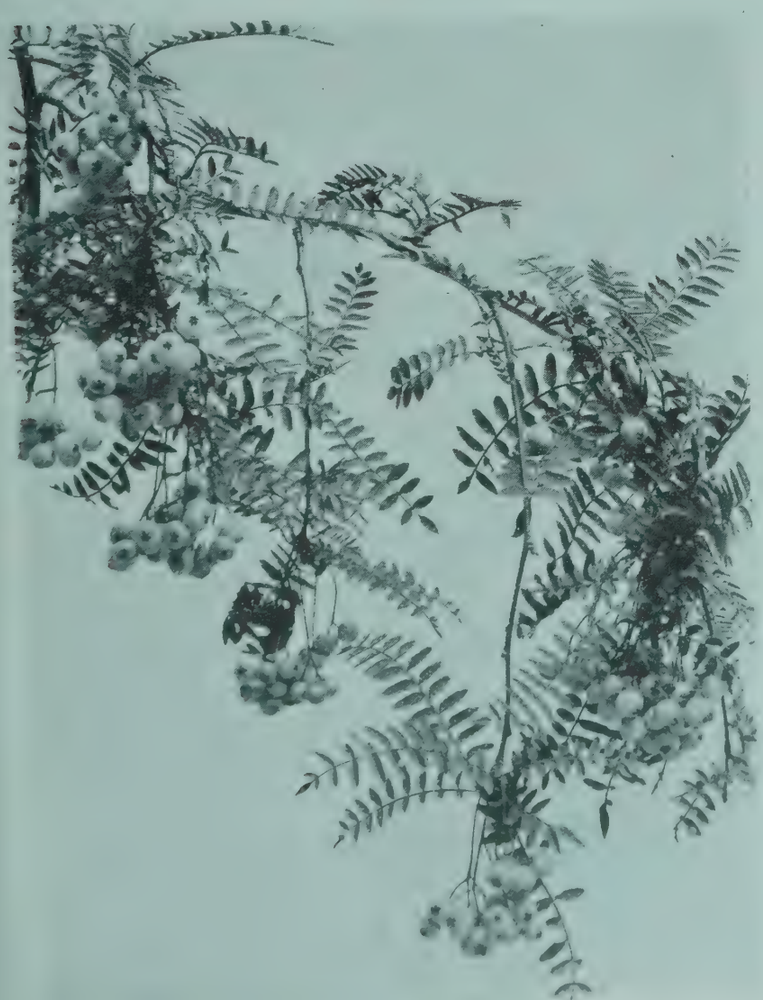
Of Hollies, there is, for berried effect, no other species which approaches the female form of the common Holly (Ilex Aquifolium). The yellow form of this, too, fruits freely, but to many it is more quaint than beautiful. The small leaved Ilex Pernyi is very beautiful when in fruit, but, after all, Hollies give of their best rather in winter than in autumn.

The Spindle Tree, Euonymus europæus, is, when the rosy seedpods burst to display the brilliant orange seed-coats, a very beautiful picture. Other species with beautiful fruits are

VITIS VINIFERA PURPUREA IN FRUIT.

americanus and alatus, the last named also remarkable for the brilliant colouring of its foliage in autumn.

There are numbers of Viburnums with beautiful "berries," such as Henryi, with red fruits, turning black; V. lobophyllum, of which an illustration is given, and V. rhytidophyllum, with red fruits; but it is very doubtful if any of them are as truly beautiful as our native Wayfaring Tree, V. lantana, which, especially by the waterside, is a very beautiful shrub. In autumn its scarlet, ultimately black, fruits and handsomely coloured foliage are delightful.



A BEAUTIFUL COUSIN OF THE MOUNTAIN ASH, PYRUS VILMORINI.

THE CHARMING CORAL BERRIES OF BERBERIS SUBCAULIALATA

THE BEAUTIFUL AUTUMN-FLOWERING HONEYSUCKLE, LONICERA HECKROTTI.

Autumn colouring is a difficult subject on which to write, as almost all deciduous species colour to some extent, especially in favourable seasons. It must therefore suffice to mention a few species and varieties especially remarkable in this respect. The deciduous Barberries have already been mentioned in this connexion, but Thunbergi and its smaller variety, T. minor, deserve special recognition, as anything more brilliant than a well coloured plant of either is impossible to conceive. They are usually at their best, too, in chill November. Excepting horizontalis, the Cotoneasters, though the deciduous ones all colour, are not particularly pleasing in this respect. The Sumachs all colour wonderfully, but the small Rhus cotinoides is a veritable autumn glory.

This is the season when the green Japanese Maples, Acer palmatum and its green varieties, dissectum, septemlobum, and others, are transfigured. Pleasing in spring with their tender green, and serving in summer as foils to their bronze and purple neighbours, they now stand forth in a glory all their own. The typical plant, by the way, is, especially in a well grown specimen, charming in flower and fruit, its red samaras contrasting admirably with the wood and foliage. All Maples, except the very purple forms, are charming when the leaves "turn." Acer Schwedlerii, considering its naturally dark foliage, colours surprisingly. The Sugar Maple, A. saccharum, is famous for its autumn tints, but none, excepting always the Japanese varieties, can show a real beauty transcending that of the burnished gold which in hedgerow and coppice proclaims our English Maple. Very pleasing are the soft yellow tints which at this season for a little while adorn the Tree of Heaven (Ailanthus) and Tulip Tree (Liriodendron). It is a pity that the effect is so fleeting. One hears it said that it is sad there is not an evergreen race of Azalea mollis. Sad forsooth! Why, both these and the looser-habited Ghent varieties are worth growing for their autumn colour alone.

A VALUABLE ADDITION TO LATE-FLOWERING SHRUBS, PRUNUS SUBHIRTELLA VAR. AUTUMNALIS.

Of flowers for early autumn, at any rate, there is an abundance. Chrysanthemums and Michaelmas Daisies give a wide choice of habit and of colouring. From the point of view of effect, it is a mistake to "collect" these last. Bold masses of suitable varieties arranged either in a special border with late flowering Kniphofias, or, better still, grouped one variety together in a shrubbery border, look far better. "Suitable" must be understood to mean suitable in habit as well as in colour and beauty of individual flower. Climax or Feltham Blue may be taken as illustrating one set of suitable varieties; Ideal another; the best of the Amellus forms a third, and the beautifully habited diffusus horizontalis will form another type to itself. Much must, of course, be left to individual taste, but sorts which have a habit resembling that of Kochia trichophylla can hardly be called particularly graceful in the border. They seem natural "dot" plants!

If there is an abundance of herbaceous flowers to select from, there is a paucity of shrubs flowering at this season. The new Prunus subhirtella autumnalis is the exception which proves the rule. Several Honeysuckles flower late, including the beautiful Lonicera Heckrotti. In the South and Midlands the Strawberry Tree, Arbutus unedo, is a great standby for this season—beautiful at once in flower and fruit! The Hibiscus are very late flowering shrubs, but they are scarcely graceful nor, except the white ones, very pleasing in colour.

In speaking of autumn colour, mention should, of course, have been made of the Vines which so beautify our walls and pergolas at this season. Where all are beautiful it is vain to particularise, but the handsome foliage of Coignettiæ has many admirers. We illustrate the Purple Vine in fruit, a very pretty autumnal picture, but, unfortunately, not a very common one.

The appended diagram is, of course, intended to suggest the use of trees and shrubs for autumn effect without destroying the beauty of the garden at other seasons. It illustrates a wide and irregular grassy vista at a point where the planting changes from mixed shrubbery to the character of a Rhododendron garden. Such vistas may be made, where space allows, supremely beautiful. It is scarcely necessary to say that Lilies of various kinds could be utilised to add to the attraction of such a garden when the Rhododendrons were over.

New Trees and Shrubs for Autumn Decoration

One for its flowers and three for their fruits, the following are invaluable for the autumn garden.

Prunus subhirtella var. autumnalis.—About five years ago this Cherry was introduced from Japan under the name of Prunus Miqueliana. Afterwards, on the authority of a German botanist it was called P. microlepis. Now, Mr. E. H. Wilson, in his "Cherries of Japan," tells us it is an autumn-flowering form merely of Prunus subhirtella, the ordinary type of which is a beautiful spring-flowering tree we have had in cultivation

r some twenty years. Our illustration is from photograph taken about the middle of last ctober, when, as may be seen, it was flowering profusely as any spring-blossoming Cherry. think there is no doubt of its being the most eautiful tree we have flowering at that late period. he time of blossoming depends somewhat upon the eason. Last autumn it was rather earlier than sual, and, judging by previous years' experience, ovember, rather than October, should be con-dered its normal month. When in bloom the ree was a mass of pinkish white visible some undreds of yards away. Those who make a loser acquaintance with its charms are rewarded ith a delightful fragrance.

Pyrus Vilmorini.—When first introduced some leven years ago this delightful small tree was alled Pyrus foliolosa, under which name it is still nown in some places. That, however, is a Himalayan species to which P. Vilmorini, no doubt, is closely allied. But it is quite distinct, probably hardier, and is a native of Western China. In the fern-like cutting of its leaves it is one of the most graceful of all its tribe. There are sometimes about thirty leaflets to a leaf, each ⅛in. to ¼in. long, toothed near the point, the whole leaf being 3ins. or 4ins. long. In flower also it is pretty, the petals being white, the entire inflorescence 2ins. or more wide. But the real charm of the tree is seen in autumn when it is furnished with its pendulous clusters of rosy tinted, globose, translucent fruits, each about ¼in. wide. The photograph was taken in early September. Pyrus Vilmorini belongs to the Mountain Ash group, but is very distinct in the colour of its fruits from the older types of Mountain Ash, most of which have them scarlet.

Viburnum lobophyllum.—Recent exploration in China has not enlarged our conceptions of any genus of shrubs, perhaps, more than Viburnum. Such species as V. Henryi and V. rhytidophyllum, both of which have been figured in our pages, present the genus in quite new aspects. V. lobophyllum has allies among some Japanese kinds previously in cultivation, but in the autumnal beauty of its fruits it is not surpassed by any. The photograph was taken in October when the bush was thickly hung with pendulous masses of globose berries. These are brilliant red and each berry is about ¼in. across. The shrub itself is of large habit and will probably grow 8ft. to 10ft. high. Wilson collected this Viburnum in Western China in 1901, but most of the plants in cultivation were raised from seed sent home by him in 1907 and 1910. Viburnums like a good loamy soil and are averse, more than anything, from parched conditions at the root.

Berberis subcaulialata.—There is a group of new Chinese Barberries whose typical and best known species is B. Wilsonæ. They are distinguished chiefly by their dull, grey-green, small leaves and their rather translucent berries of various shades of red, generally pale coral or salmon red. To this group B. subcaulialata belongs. From B. Wilsonæ itself, it is distinguished by its quite smooth shoots, those of B. Wilsonæ being clothed with a fine down; also by its taller, stronger habit. It is useful in being one of the very latest of the Barberries to ripen its fruits, which attain their best colour about the end of October and are still good in November. It was introduced from the western side of the Province of Szechuen, China, by Wilson in 1908. The stems are armed with slender, needle-like spines ½in. to ¾in. long, set in triplets. W. J. BEAN.

THE RED BERRIED VIBURNUM LOBOPHYLLUM.

SOME NEW MICHAELMAS DAISIES UNDER TRIAL

AFTER reading the Rev. Joseph Jacob's article on page 610, December 11 last, I was able to obtain the first eight of the newer Aldenham Michaelmas Daisies, which were, with certain other varieties, duly planted towards the end of April or beginning of May.

No particular preparation was given beyond deeply digging the soil, and after the first week they received hardly any water and no rain has fallen here since May 29 until, of course, quite recently.

With the exception of Brightest and Best (an absolute wash-out), they have all made strong healthy growth. Louvain and Queen of the Belgians have not flowered at the time of writing, so I can only say that the latter had very pretty coloured stems during the early summer and appears to have a good constitution. I give them therefore, an honorary first and second, with the benefit of a doubt.

Here I would introduce a stranger to stand at least third on my own list, and that is Robinson V.C. I think if I could only grow one Michaelmas Daisy it would be this gallant gentleman from Merstham, whose neat habit and beautiful mauvy-lavender colouring is an ideal of what a Michaelmas Daisy should be. He is not too tall and not too short, having a nice bushy habit, with slender stems that are at the same time strong enough to withstand, without assistance, what are known in Sussex parlance, as "*blustrous* winds."

In general habit Robinson V.C. resembles, but is distinctly *better* than, Mons, while both (with Général Leman), might well be used for the middle line of an Aster border. I like him better than Blue Gem, although when in bud the two can hardly be distinguished. Robinson V.C. makes a distinct note of colour in the garden and stands out as equal to, if not surpassing, many of his more aristocratic relations from Aldenham.

The remarks apply to this variety essentially as a garden plant, for when cut and put in a vase, it loses its peculiar distinction and becomes quite commonplace, while, unlike Mons, candle or lamp-light is no aid to beauty, for Mons under lamp or candle-light becomes a most glorious deep pink, worth growing for this use alone. Like every other soldier he looks his best on parade. He stands in my garden like a sentinel on guard, surrounded by butterflies and bees even to the extent of putting Amellus King George a trifle in the shade (as regards the butterflies). The next best on my list is Général Leman, better, I think, for distant colour effect than Mons, but unfortunately it flowers more sparsely and the difference between the two is only noticeable either when the sun is shining upon them or when viewed from a distance of several yards. At first I could see no difference, except in habit, but Mr. Jacob is right—it *has* a clearer, purer pink, whereas Mons is *not* pink, not even "rose"—*i.e.*, in daylight.

Two Asters of the Amellus section stand supreme for distant garden effect. They are King George and Beauty of Ronsdorf. The latter is a somewhat awkward colour to use with the violet of the other. This wonderfully luminous "true mauve" will light up a dark room and the heavy shadows of oak on a dull day in a manner that is remarkable, while in the garden it should be planted with a white groundwork or backed by white flowers and grey foliage—a dream of refined colouring.

Mons (third in Mr. Jacob's list becomes seventh in my own), makes a telling piece of colour when the setting sun shines on top of the sloping bank where, by the side of Général Leman, it grows. It can, however, hardly be described as "pink" or "rose"; it has the exact shade of the old-fashioned magenta Phlox on a dull day, which somewhere in THE GARDEN was execrated long ago by Miss Jekyll, I think a little unfairly, as placed in a group by itself it *can* be very fine. So with Mons, which may prove useless for colour combinations and must be kept away from different shades of the same colour. I here mention Blue Gem as ninth and last, which, while pretty in the bud stage, has such a small yellow centre that I do not much care for it; its blue is not improved by age. Brussels comes eighth in my estimation, only since it also is not very convincing as a Michaelmas Daisy. It is a good tall stand-by for a back row, but I can see nothing very remarkable in it beyond its size and the fact that it far surpasses King of the Belgians, a variety that I do not think has the smallest right to remain even seventh on Mr. Jacob's list. The only good quality the last named has is vigour, with deep green foliage and a very stiff habit. The flowers are coarse [illegible] and mostly malformed. They have [illegible]

Michaelmas Daisy ceases to be a Michaelmas Daisy. It is only an Aster and a bad one at that. I think the reason is that the "disc," apart from its bad shape, is larger in proportion to the length of its florets, which are too thick and too short. Brussels, growing beside King of the Belgians, is far superior in every way, the paler lavender is more pleasing, the petals are slightly concave, whereas in King of the Belgians they are reflexed.

To show how little either of the last two varieties appeal to the outside observer, a visitor remarked only yesterday, in pausing by the corner where they grow, "I suppose these are some of the old ones!" I humbly suggest that His Majesty the "King of the Belgians" may follow the way of certain other royalties in the flesh, and be placed with "Cardinals" and "Blushing Brides" and I hereby submit a request for his abdication from a position which after all was only seventh.

EDWD. SHOOSMITH.

THE BORDER CHRYSANTHEMUM

Its use and value as a garden flower and suitable varieties for various situations

THE Border Chrysanthemum is so important, one might easily say, so invaluable, a plant that it is regrettable that nurserymen's lists do not, as a rule, differentiate more clearly between the genuine Border kinds and those varieties which, while flowering before the Chrysanthemum shows, are useless outdoors, at any rate for garden decoration.

The Chrysanthemum may be used effectively for bedding out, either alone or in association with Dahlias. Gladioli or Lilies between them can be used, if desired, to give decorative effect before the plants reach maturity. As with Roses, so with the Border 'Mums, the beds should not be too large, nor should too many varieties be used in a bed—two, a taller sort and a dwarf one, are generally sufficient, while a mass of one suitable variety will usually look best of all. Suitable varieties for this purpose are Carrie, a deep yellow sort which continues long in flower; the rich ruddy bronze Nina Blick, and the deep orange Polly. If a variety similar in habit to the last is required for matching purposes, it has a bronzy red sport, Abercorn Beauty, and a golden break, Golden Polly. Ethel has lovely primrose-yellow flowers, while Diana, deep bronzy red, has deep crimson and golden yellow counterparts. Unfortunately it does not grow freely on all soils. The best white for this purpose is the old Market White, though Holmes' White is very free-flowering, bushy and dwarf. Rather taller than these already named, but quite excellent, are Goacher's Crimson, Goacher's Terra-cotta, the deep crimson Mrs. W. Sydenham, and the beautiful snow white Roi des Blancs. This last is, owing to its rather thin habit of growth, most suitable for the centre of a bed, with a dwarfer variety as a surround. For covering unsightly gaps in the front of the herbaceous border, left by early blooming plants, the varieties already mentioned are suitable. For gaps farther back, where something taller is required, the old "Masse" family is wonderfully useful. They must be well staked to be effective. The varieties which constitute this "family" are Mlle. Marie Masse (lilac mauve), Horace Martin (yellow), White Masse (creamy buff), and Crimson Masse (ruddy bronze). Others equally good if hardly so tall or hardy—the Masse family winters well outdoors and old plants grow taller and produce finer flowers than first year ones—are Minnie Carpenter, rich terra-cotta; Perle Rose, deep rose, tightly incurved; Nina Blick, a very beautiful bronzy-red; the beautiful blush pink, cream shaded, Perle Chatillionaise, and its lemon yellow and buff sport, J. Bannister; the very old, but still beautiful and appropriately named Harvest Home; the distinct chestnut-scarlet Ethel Blades; the reddish orange Tonkin and the soft, rosy-mauve Mignon.

Quite distinct from any of those named, but suitable for beds or borders or the front of the shrubbery, is the beautiful golden bronze Orange Pet, practically a huge pompon, extraordinarily free in flower. For this last purpose there is among the newer kinds nothing quite so suitable as that perfectly hardy old purplish-carmine pompon Anastasio. Its shrubby habit and beautiful, if uncompanionable, colouring—it is delightful under the rays of the setting sun—give it a singular appropriateness in such a situation. Old plants will often grow into spherical bushes 3ft. high and 4ft. or 5ft. through, as perfect in shape without staking, tying or attention as a well grown Veronica Traversii. Two other old pompons which will scarcely be found in present day dealers' lists, but which are admirable in their place, are the bright yellow Flora, which starts flowering in August and continues till severe frosts come, and the dainty little pink—if any Chrysanthemum may be called so—Mr. Selly. Another little jewel is the bronzy Little Bob. For further back in the shrubbery, where the soil is necessarily not over rich, there is nothing to equal the accommodating "Masse" tribe!

Such kinds as the starry White Quintus—its parent, O. J. Quintus, is not a pleasing colour—the ruddy bronze, shaded scarlet Almirante and its red sport, the yellow Cranfordia and bronze sport, Framfield Early White and yellow sport, the golden bronze La Pactole, the white Mrs. Roots, Uxbridge Pink, Verona, Soleil d'Octobre and bronze sport, and White Countess, are best either under glass or in a sheltered border in the kitchen garden, where they may have some protection from night frosts. They are then very useful for cut flowers. All of them, except White Quintus, are best disbudded.

The single varieties are not, in general, nearly so useful for border decoration as the double sorts. They are more readily damaged by rain or strong winds, and their petals, usually very thin in texture, commonly show unsightly marks by thrips or other insects—marks which, on the outer petals of a double variety, would be out of sight and mind. With regard to their worthiness, an exception might be made, however, in favour of the beautiful Nellie Riding, which, more substantial than most—it has something of the stiff growth of the indoor Edith Pagram—is of a shade of colouring hard to describe, but which approximates to that of the late-flowering kinds, Mary Richardson and Lady Furness.

FORTHCOMING EVENTS.

October 10.—United Horticultural Benefit and Provident Society's Committee Meeting. Bath Gardeners' Debating Society Meeting.

October 12.—East Anglian Horticultural Society's Meeting.

THE AUTUMN GARDEN

Not every one will agree with the writer's idea of forming an autumn garden, though where space is available such a garden could be very charming, but careful thought as to autumn effect will greatly improve the appearance of the garden at this season.

AMONG the characters of ancient mythology there was a prophetess whose predictions were written upon leaves laid in order on the floor of her cave. When an enquirer looked in to read what the future had in store, a gust of wind scattered the leaves and the message they held.

In a literal sense the future, like the past and the present of gardening, lies in leaves, but the story may also be taken symbolically. We cannot foretell the future with certainty, but there are not a few stray signs to indicate that an increasingly important part will be played by autumn leaves and berries. The autumn garden has possibilities.

The course of a nation's taste is reflected in its poetry, and study of our own leads to a conclusion which has a bearing on the present subject. The earlier periods were marked by the youthful vigour and freshness associated with the spirit of spring. This merged into a deeper and more intense phase bearing the fulness of summer. In more modern times there are signs of the quieter, but none the less intense, peace-seeking mood of a more advanced season.

Poetry is the expression of feeling which all experience in some degree, but only the gifted few can utter. Gardening is a more effectual means of expression, because it is open to all. If the former tends toward the autumn mood, the latter may be expected to express it more fully. We may leave to the philosopher the reflection that such a mood indicates decline. To the gardener it opens up immense possibilities of advance.

In spite of all that can be said for spring and summer, autumn is undoubtedly the crowning season of the year and this is being more widely recognised. The artistic side of gardening is mainly a matter of sentiment. Sentiment can only breathe where there is "atmosphere," and this quality is a pre-eminent characteristic of autumn. The elusive scent in the air, the soft haze and the mellow richness of evening light are peculiar to this season. Such associations add charm to the vegetative beauties of the season and these are in the power of man to dispose and increase. An artistic gardener is a true poet in the original meaning of the word. With living materials he can make pictures which continue to live in the memory of those who behold them.

The chief materials are trees and shrubs, whose foliage or fruit assumes bright colours in autumn, but within even these limits there is a large and increasing number to choose from. Many trees take on beautiful yellow, orange, red or bronze tints before the leaves fall.

The brilliant berries are Nature's crowning work. To increase their attraction she often casts over them, in the early part of the day, a veil of mist, which clothes with minute pearls the spider's gossamer upon the branches. With the approach of noon the berries come more clearly into view and in the evening there is shed over them the richest light of the year.

Much has been said of late about the formation of gardens of rest for the decline of the day. A still greater object would be the arrangement of gardens of beauty in harmony with the decline of the year.

A. E. SIMS.

NOVELTIES AT THE AUTUMN ROSE SHOW

TIME was, and it does not seem so very long ago, when Roses that bloomed well in the autumn were especially valued, and, indeed, when making a selection of new sorts it was often necessary to ascertain the possibilities in this direction. But now most of the Roses of the day flower almost as well in September as in June, and this was exemplified to an increased degree at the N.R.S. Autumn Show at Vincent Square. There were to be seen an enormous variety of Roses, as beautiful as, if not more beautiful than, at any time previously in the year.

The three exhibits of twenty-four exhibition blooms were magnificent, and Messrs. Alex. Dickson and Son achieved a triumph in having the best of such Roses. All their blooms were consistently good, but a couple of new varieties, Cream Cracker and Pax Labor, were very charming. The former is very fascinating in the pale apricot centre to the creamy white blooms. Pax Labor is a pale yellow, edged with carmine. Many delightful blooms were also shown by Messrs. Hugh Dickson, Limited, who won the second prize and, with the gorgeous J. G. Glassford, the silver medal offered for the best Rose in the nurserymen's section.

The baskets of Roses were a great feature of the Show, and the first prize-winning lots of Betty Uprichard, K. of K., Sunstar, Red Letter Day and Mme. Edouard Herriot, by Messrs. Alex. Dickson and Sons, were gorgeous. Although it was not included in this exhibit, yet the lovely Ophelia was decidedly the "Rose of the Show," for it was to be seen in great beauty in almost every form of exhibit, thus testifying to its general utility. But nowhere was it better than in the dinner-table decoration by Mrs. Courtney Page, where, associated with graceful fern-like shoots of Rosa sericea pteracantha, it was simply perfect. The large glowing, single blooms of Isobel were also frequently seen and the honours of the many bowls and vases of Roses lay clearly between this variety and Mme. Edouard Herriot.

A "LADY'S FLOWER," SOUVENIR DE R. B. FERGUSON.

The new Roses more than filled the allotted tabling along the end of the hall and nearly all of them were of great merit, though they were memorable chiefly in that they included two wonderfully good deep yellow Roses, which have all the appearance of being quite "easy doers," so that they should have a great future.

Mable Morse.—This is a magnificent rich golden Hybrid Tea Rose which, we anticipate from a scrutiny of the blooms and the accompanying plant, will prove to be the long desired vigorous golden yellow Rose. It is a somewhat rounded flower, fully double and a trifle pointed in the bud state, when the golden colour is orange tinted. It has a pleasant Tea fragrance and the shining dark green leaves are of Pernetiana type. Gold medal to Messrs. S. McGredy and Son.

Earl Haig.—The great charm of this Hybrid Tea Rose is its delightful fragrance. It is a large, broadly conical bloom that will certainly be valued for exhibition purposes, while the raisers also state that it is continuously in bloom, being particularly good in autumn. The colour, as shown, is variable. One half of the blooms were

THE EQUALLY BEAUTIFUL BRIGHT YELLOW FLORENCE M. IZZARD.

of brilliant scarlet-crimson colour, while the remainder were fairly heavily flushed with crimson-maroon on the insides of the petals, but the size and shape were constant. The foliage was not good. Gold medal to Messrs. Alex. Dickson and Sons.

Florence M. Izzard.—In the opinion of many visitors this deep yellow Hybrid Tea Rose is fully as good as, if not superior to, Mable Morse. In arriving at this opinion we feel that they were rather over-influenced by the wonderful perfection of one bloom, nearly in the centre of the stand, and that generally the blooms, and more particularly the foliage, were a trifle inferior; though, if it had also received the higher award, we imagine few would have impugned the judges. It is a glorious golden yellow Rose, the merest trifle paler in colour and rather more pointed in shape than Mabel Morse. It did not seem to be quite so fragrant as that variety, nor was the foliage so perfect, though it was quite good, and the pleasing purplish sheen on the stems and undersides of the leaves was more pronounced. Certificate of merit to Messrs. S. McGredy and Son.

Mrs. H. L. Wettern.—A Hybrid Tea Rose much of Mrs. John Laing type, but more vivid in colour. The buds and half-opened flowers are

THE NEW GOLDEN YELLOW ROSE MABLE MORSE.

particularly bright, but at maturity there is a suggestion of magenta. Certificate of merit to Messrs. S. McGredy and Son.

Dewdrop.—This is a delightful, medium-sized Hybrid Tea Rose which, although recommended for all purposes, will probably be most valued for garden purposes and for cut flowers. The rich pink colour passes to a beautiful soft rose as the blooms open fully. Certificate of merit to Messrs. S McGredy and Son.

Souvenir de R. B. Ferguson.—In colour this was the most fascinating new Rose in the show. It is a free-flowering Hybrid Tea of medium size, perfect in bud and of delightfu golden fawn colour, heavily suffused on the insides of the petals with shades of apricot and occasionally with a suggestion of soft rose pink. Certificate of merit to Mr. Wm. Ferguson.

Portia.—A small free-flowering Hybrid Tea variety, suitable for the garden and for house decoration and of glowing terra-cotta colour. Unfortunately, the foliage was badly affected with mildew. Certificate of merit to Messrs. Bees, Limited.

Lady Sackville.—A small, round, compact Hybrid Tea Rose of exceedingly dusky appearance - -the darkest maroon Rose we have seen. It is pleasantly perfumed, but not quite so fragrant as one would expect in so dark a bloom. Certificate of merit to Messrs. S. McGredy and Son

Sweet Nancy.—A delightfully fragrant Hybrid Tea variety, much after Killarney Brilliant, but with more substance and depth of colour. Shown by Messrs. S. McGredy and Son

Admiration.—A pretty, all-purposes Hybrid Tea Rose of medium size and pale apricot colour flushed with rose pink. Shown by Messrs. S. McGredy and Son

Diadem. Another [illegible] all-purposes Hybrid Tea Rose. It [illegible]

becomes pale apricot at the edges. Shown by Messrs. S. McGredy and Son.

Lady Moore.—If the buttercup-yellow colour at the base of the soft pink petals would only persist longer, this would probably be a gold-medal Rose, but the shining golden colour fades all too soon. Shown by Messrs. S McGredy and Son.

Adonis.—A very shapely, full, fragrant Hybrid Tea Rose of lemon yellow colour, with pale yellow centre. A good exhibition Rose which is also recommended for the garden. Shown by Messrs. Bees, Limited.

Macbeth.—A small, free-flowering, garden Hybrid Tea variety of velvety crimson colour, freely flushed with maroon. Shown by Messrs. Bees, Limited.

Two All but Hardy Races of Autumn Flowering Bulbous Plants

The Montbretia and the Nerine

WHAT a good example Lord Lambourne set us at the Royal Horticultural Society's Vegetable Show! The London evening papers were quite touched, so much so that they gave us pictures of his discussing Brussels Sprouts with the judges, and of his being lost in silent wonder at something that looked very like a Potato or a monster Onion! Unfortunately we have not all of us that strength of mind which can force us to dwell long and lovingly on those toothsome morsels (?) when so many fairer charmers are near. I candidly own I cannot rise to such a pinnacle of abnegation when the finest Nerines and the finest Montbretias that have ever been produced by the agency of man are in such close proximity as they were on this occasion in the "Hall." I have to be candid and own up that these were the only objects for which I had any eyes. Even the Dahlias, the Michaelmas Daisies, the Carnations and all the varied etceteras that went to make up a good Tuesday display were hardly noticed. Mr. Sydney Morris' Montbretias, Mr. Elwes' Nerines and Messrs. R. Veitch and Son's hardy Nerines were enough. Each display in its own sphere was a sample of "the very last word."

M comes before N so I start with the Earlham Hall Montbretias. The old house that sheltered the girlhood of Elizabeth Fry has again become famous in that it is now the home of a truly marvellous race of flowers which has left poor Pottsii and crocosmæflora far behind in colouring, size and form. Even the hybrids of Lemoine and Davison's Westwick wonders have been eclipsed. His Majesty just fills you with awe and amazement at the size of its blooms and its stature. I am not sure which button on his waistcoat Mr. Morris touched when he was telling me of its height, but it was not the bottom one. Its huge flowers have a groundwork of rich yellow with three segments heavily coloured towards their ends with a good orange-red and the remaining ones little more than tipped. It was the first time I ever had seen it in the flesh and I was duly impressed, but my heart warmed more to the exquisite refinement of Queen Alexandra's pale yellow flowers and their graceful setting on the ideal upright, tapering spike which in these characters outclassed every other variety in the group. It was our modern Rose Queen personified in a Montbretia. For richness of colouring and openness of bloom I liked Aurora. I do not think it has ever appeared at a show before; at any rate, it has never been presented to the Floral Committee. When that time comes it will be strange if it receives no award. Its splendid deep orange blooms with their pleasing open shape and pretty setting ought to ensure this. My third favourite bore the name of poor James Coey. The flowers are a deep orange red with a dark yellow centre. It, too, is a newcomer. Nimbus, a deep straw yellow with a narrow circular ring of red in the centre of the flower, is very distinct; so, too, is a novelty, Mrs. H. J. Jones, which has pale yellow flowers with rosy undersides. One wants to be a Montbretia grower after seeing the Earlham Hall group. They are a lovely race for giving us an August and September display. We had a visit in the early part of the year from a celebrated German whose slogan was the relativity of knowledge. He might have illustrated his theme by a reference to the hardiness of plants. I open a well known catalogue and read that Montbretias are "a race of hardy bulbous plants." "Hardy" must be understood in a relative sense here, or I fear there will be "wailing and gnashing of teeth" in cold northern climates and where the soil is stiff and unkindly when these Earlham hybrids are treated as on a par with Michaelmas Daisies for hardihood. Even the old stagers like Etoile de Feu, Pluie d'Or and Talisman should be protected in some way in all but favoured gardens. This may be done by not cutting off the foliage till the spring, or covering the clump with a couple of inches of fibre or half decomposed leaf-mould. The Davison hybrids are safest when lifted, but the Earlham must be lifted. Before frosts become too severe the clumps should be lifted and put in rough boxes and then housed in a frost-proof greenhouse all winter. Outdoors they like a fairly sunny position and they accommodate themselves to any good border soil.

THE BEAUTIFUL HYBRID NERINE VEITCHII

Nerines for a long time have been one of Mr. Elwes' specialities. He has done a great deal for them. He has extended their range of colour. He has given us whites, rich crimsons, pale pinks, various shades of rose, scarlets, salmons and glorious orange reds. It is a curious fact, but what the hybridist sets most store by is by no means that which appeals to the public. So it was with these Nerines. The very variety which Mr. Elwes thought so much of was a sort of pink or rose toned magenta named Miss Godman. Its rarity did not, however, appeal to those to whom a Nerine was a Nerine and nothing more. Again, another improvement that he has brought about is the greater freedom of flowering which characterises the new acquisitions. I have grown a considerable number of them myself, and the difference between these and the old sarniensis on which Dr. Douglas wrote his monograph is very marked. The form of the individual flower and the shape and size of the truss have not been neglected. The upshot of all this was the fine quality of the small group. I fear a list of the most taking varieties is not much use, so few being in commerce; but here is one, for what it is worth. Salmon-rose: Rotherside, Hon. Mrs. Dawnay × Purple Prince and Countess of Altamont (the first and last were not raised by Mr. Elwes). Pinks: Lady Mary Shelley, Mrs. Arthur Elwes and Mrs. Cecil Elwes. Rich crimson and cerise shades: Lady Havelock Allan, the Hon. Miss Gibbs and Lady Rankin. White with slight pink markings: Lady White and "Better than Lady White." Why are not Nerines more frequently to be seen in our friends' greenhouses? They have only one enemy—mealy bug. They endure patiently almost any sort of treatment if only they get a good summer baking in a cold frame or a cold greenhouse, and kept growing during the winter months in a very cool, but frost-proof greenhouse. They like to be potbound, so repotting is seldom necessary. If they are left until they burst the pots no harm is done.

a corollary I have found that they must be least two years in their pots before they are their best. And what a best! An unknown dy who stood beside me looking at Mr. Elwes' oup was carried away with her enthusiasm d turned and said: "They are the most lovely ings I have ever seen."

Messrs. R. Veitch and Sons work on different es to Mr. Elwes, and no Nerine is of any use to r. Peter Veitch which is not hardy at Exeter. consequence we saw only Nerine Bowdeni and owdeni hybrids in the little collection that me from Exeter. Bowdeni itself is a rose-pink, pallida a pale pink, B. alba pure white and eitchii a splendid smooth petalled salmon pink hich seemed to be very free and reminded me so uch of Sir Frederick Moore's Duchess. It is very charming plant. Whether "hardy" is nly a relative term when applied to Bowdeni, know not. If you have a south wall or the south front of a greenhouse against which the bulbs may be planted at a depth of 6ins. to 8ins., they do all right in the Midlands and perhaps in the North and in Scotland. They certainly give no trouble, and if they will not go on till "kingdom come," will flourish for an appreciable portion of an ordinary lifetime.

In conclusion may I say why I grow them? First, because I am not a "perpetual" maniac and have not wholly lost my faculty for getting pleasure out of anticipation; and, secondly, I want them to cheer me up in late September and October. They remind me of the glory of the Tulip before the dark dull days of November and December come upon us, when I try to garden among the gardens of past generations by touring round with John Evelyn or visiting John Rea and his collections, or perchance helping Thomas Hill to make one of those grown-up playthings of our forefathers—a labyrinth. JOSEPH JACOB.

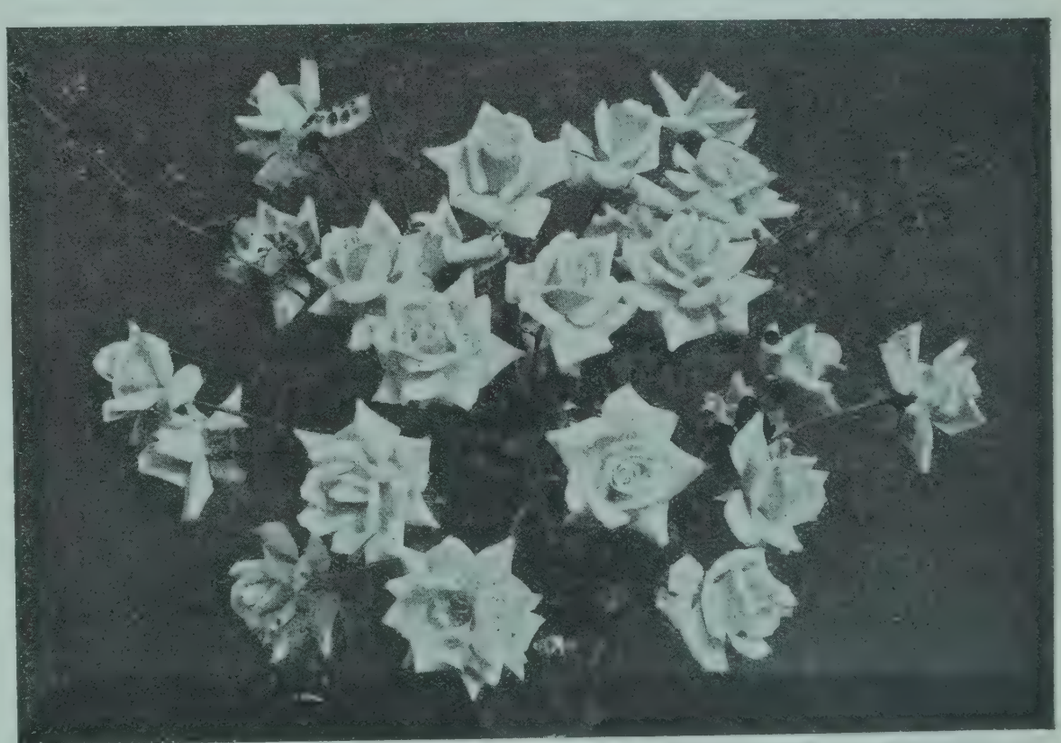
CORRESPONDENCE

THE LATE MR. GEORGE PAUL.

N common with many others, I received quite a shock when I heard of the passing of this reat rosarian. It seemed to cast a gloom over he Autumn Show. I sometimes think these old osarians will never be replaced. Mr. George Paul, ike the Rev. H. D'Ombrain, Dean Hole and Edward Mawley, seemed to be the embodiment f the real rose lover, men who worshipped the lower. With so many to-day it is what can I make ut of the profession. Well, we shall all be the oorer by the death of this kindly gentleman. He was not only a great rose grower, but his knowledge of shrubs, fruits and perennials was also unique. Mr. George Paul was a man with a iberal heart and his work on the various councils in Hertfordshire will long be remembered. He was also a distinguished Free Churchman and I can testify to the esteem in which he was held by that body.—WALTER EASLEA.

THE AUTUMN ROSE SHOW.

THE marvellously beautiful show of Roses at Vincent Square merits a few words of description for the benefit of those who were not there. One thing stands out pre-eminently, and that is the superiority of the Irish and English Rose seedlings over the French Roses as a whole—a triumph for British science, skill and patience. There were very many beautiful new seedling Roses shown, but I do not propose to name any because they will not be distributed perhaps for years, and, in any case, their garden value is quite unknown. Suffice it to say, they were overwhelmingly beautiful and varied. I do not know that *all* were worthy of such very high praise, but the standard was unusually high throughout. One thing is especially fresh in my memory, the Hybrid Tea Roses Ophelia (flesh colour), K. of K. (vivid red) and Golden Emblem stood out as the very best and most satisfactory of all modern garden Roses, while there is no especially lovely new pink garden Rose. I confess also to a hearty admiration of Queen Alexandra when *fully blown* and not in the too tight and prim bud. It is a glorious feast of colour and scent in a garden. Among autumn-flowering climbing Roses I hope others admired, as I did, the double yellow Cluster Rose, Kallisto; it might easily be mistaken for a double yellow Banksian Rose, and to have such a gem flowering in autumn is synonymous with Perfection! There were some I should mark with a black pencil as ugly in colour and shape, but Pax is an autumn-flowering white Climber every gardener should possess. I will stop for fear of boring.—E. H. W.



OPHELIA WAS *THE* ROSE AT THE AUTUMN SHOW.

The picture portrays the centre vase of the first prize table decoration by Mrs. Courtney Page.

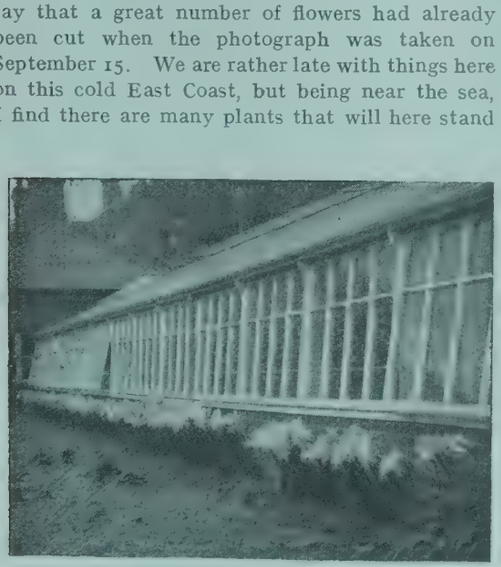
THERE is no doubt the new Roses are the cynosure of all eyes at a National Rose Society's show. Amateurs and dealers, novices and old hands, all alike want to see what there is. They attract us all, so I, too, must be in the swim. The outstanding fact about them at the Show on September 22 was the presence of a large number of those black velvet tombstones against which Mr. Samuel McGredy of Portadown generally displays his wares. He made the Show as far as novelties up for award were concerned. There were twenty-three varieties in all, and out of these fourteen hailed from the wonderful Mac. I have heard people say any one—they mean "any fool"—could get as many awards as he usually does if they had as many seedlings from which to pick. Of course they could if they had the same brains and intuition. Otherwise . . . What on this occasion was Mr. McGredy's score? One "gold" and four "outers," or in the lingo of the Rose Society four certificates of merit. The giving of awards never seems to be done wholly satisfactorily. That they were not in accord with my own judgment is a small matter. I only know the ones that please me most, and I think I could give reasons for my choices, but whether they would be orthodox or heterodox is another question altogether. Scent goes a long way with me, and so it does with very many other gardeners. Imagine, then, my feelings when one of our "big wigs" calmly told me he was engaged in a sort of mission against the asinine stupidity of the over-estimation of scent! Well, "them's not my sentiments." Again, I like a Rose to be some shade of rose in colour. It seems more natural to me that it should be so; hence Sweet Nancy, Mrs. L. H. Wettern, Dewdrop and Lady Moore were the ones I first looked at. They were all some shade of rose or rose pink. Mrs. L. H. Wettern and Dewdrop got certificates of merit. The other two got nothing, and yet, had I been the supreme arbiter, it would have been Sweet Nancy first and the rest nowhere. When I visited Portadown Nursery in 1919, and sampled many tens of Roses, old and new, none came up to this then unnamed seedling for scent—that is, the old Rose scent that we associate with the "cabbage" and Hybrid Perpetuals. Its colour is a delightful fresh rosy pink. It has nice long buds. From the sample plants that lay beside the flowers it has every appearance of being a good grower. Mrs. L. H. Wettern, which was a somewhat similar Rose, failed, I thought, in its old blooms. They went off badly, whereas those of Sweet Nancy retained their charm to the end. The yellow to me, and to two famous rosarians as well, were placed topsy turvy. The fat, rather unshapely blooms of Mabel Morse, which had the coveted award, were too much after [illegible] to be pleasing, whereas for [illegible] Flower [illegible] Alice [illegible]

more than a certificate of merit, to say nothing of its exceptionally lovely shade of deep rich lemon. Florence Morse, however, was a possible gold medal, but not Earl Haig. I saw very little in it except that the younger blooms looked as if they had been stood in ink which had run up into the veins. "Now, Jacob," said a man who knows as much about Roses as anyone, "you have got something to write about." By far the most striking variety in the hall was the new Lady Sackville. It is the darkest Rose in the world, and it would have been hard lines if it had not had some special recognition. It well deserved its certificate of merit as an altogether exceptional novelty. The general verdict appeared to be, "A really remarkable variety, but not one to attract many friends." Two people who spoke to me about it made also the identical remark: "I would not care to have it in my garden."—JOSEPH JACOB.

THE BELLADONNA LILY.

MAY I add my testimony as to the beneficial effect of a hot summer on the flowering of the Belladonna Lily. Last summer, the first I spent here, we had a dozen blooms or so, while this year we must have had 150. They are planted next to a Peach house facing east.—C. G. FIELD-MARSHAM, *Tunbridge Wells.*

THE enclosed snapshot shows a line of the Belladonna Lily flowering on the Vine border here at the foot of a south wall. In July, 1907, I planted a single line of bulbs, 23yds. in length, quite close to the wall; in fact, some of the bulbs were touching the brickwork. They did not flower much the first season, but since then they have never failed to yield a good crop of blossoms. The increase of bulbs has been great, many of the flower-stems being now 18ins. from the wall. The rich compost of the Vine border is evidently to their liking. I should like, another season, to take some of them up to plant in other positions, but hesitate to do so on account of the inevitable disturbance to the Vine roots. I may say that a great number of flowers had already been cut when the photograph was taken on September 15. We are rather late with things here on this cold East Coast, but being near the sea, I find there are many plants that will here stand



A ROW OF THE BELLADONNA LILY.

the winter without protection that I have quite failed with outside in inland gardens. A large plant of Agapanthus umbellatus under a west wall, for instance, has stood for fifteen years without any further protection than the wall and flowers freely. I could give numerous other instances, but must not encroach further on your space.—H. REYNOLDS, *Great Yarmouth.*

BRITISH BULBS.

I WAS delighted to read your notes contrasting the methods of English *versus* Dutch bulb-growers, and I fully endorse, from experience, what you say regarding the former's lack of "push." This year I was bombarded with catalogues from Dutch bulb-growers, and as I had only once (before the war) had bulbs from Holland, I cannot think *how* they found my name, but *not one* advertisement did I get from English bulb-growers, only lists from the seedsmen I deal with, and as I wanted many bulbs I unwillingly placed my order with the foreigners simply because I could not afford the high prices of the English dealers. In these days, when it is so all important to encourage home industries, could nothing be done to help the English growers? Your suggestion of co-operative advertisement seems excellent and I wish it could be carried out. I am sure many people, like myself, would infinitely prefer to buy at home if they only knew where to apply.—S. B. CHAWNER.

I AM glad to see on page 475 that you endeavour to get English grown bulbs better known and try to get English buyers to be patriotic. I do not understand how Englishmen and women can send their money abroad for what they can buy in England. Visitors gaze at the flowers I have from home grown bulbs—having also often wondered why I pay so much for my bulbs—but when they see results they are inclined to believe that my expensive home grown bulbs are the cheapest. Could you not do a little repetition in some way or other each week just at the bulb buying and planting season? You have occasionally had articles or letters from Mr. Jacobs (or Mr. Jenkins, I think), about some nursery garden—on Asters or on Delphiniums—perhaps you could get articles on bulb farms in Lincolnshire and around Wisbech, in North Wales, Cornwall and the Scilly Islands, and open the eyes of some who write to Holland for Daffodils, etc. I feel very annoyed and inclined to forget politeness when ladies tell me that they have ordered Daffodils, etc., from Holland. While worrying you, I was very sorry to read what you and a New Zealand subscriber had to say about packing for New Zealand and everything spoilt and lost through inferior careless packing, etc. I lived thirty-three years in the province of Buenos Aires, about four leagues from the city and received many things—chiefly from Barr and Sons—most splendidly packed, instructions carefully carried out, and if I asked for what they did not stock, they sent it; so did Cant, Cannell and others. I wonder whether "N. Z." really went to a first-rate firm. It is such a pity to get good men suspected through one casual, indifferent, incompetent nurseryman.—VERE CALDWELL.

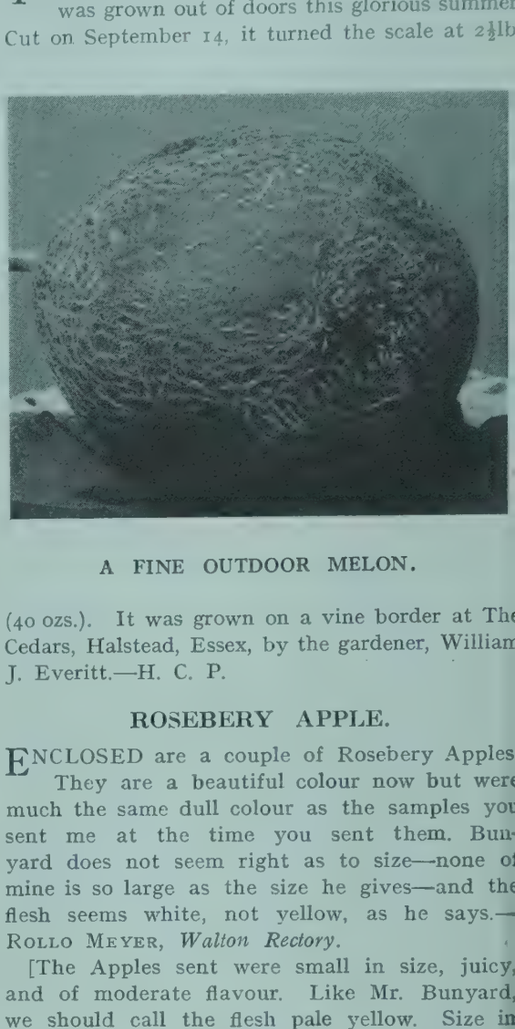
[We have carefully noted our correspondent's suggestions, but are afraid it is hardly an editorial matter continuously to thrust British bulbs under our readers' notice. As we pointed out, if the firms advertising home grown produce would clearly state so in their advertisements, something would be gained. Our correspondent's remarks as to satisfactory packing are enheartening, but though "New Zealand Novice" did not mention any names, there seems, unfortunately, no doubt that the firm he referred to was of high standing in the trade. There is, it seems to us, no use in, ostrich-like, burying our heads and not facing unpleasant facts. Unless such troubles are ventilated, matters are hardly likely to be set right.—ED.]

I WAS very interested in your comments under "Notes of the Week" in the issue of September 24. It is, indeed, a pity to buy abroad what can be obtained at home. I cannot find Narcissus The Prime Minister in any bulb list to which I have reference. Can you say where it is to be procured.—H. H.

[Narcissus The Prime Minister was raised by Mr. W. A. Watts of St. Asaph and is being sent out by the Anglesey Bulb Growers' Association, Llanfair, P.G., Anglesey.—ED.]

A REMARKABLE OUTDOOR MELON.

THE Melon, of which I send you a photograph, was grown out of doors this glorious summer. Cut on September 14, it turned the scale at 2½lb.



A FINE OUTDOOR MELON.

(40 ozs.). It was grown on a vine border at The Cedars, Halstead, Essex, by the gardener, William J. Everitt.—H. C. P.

ROSEBERY APPLE.

ENCLOSED are a couple of Rosebery Apples. They are a beautiful colour now but were much the same dull colour as the samples you sent me at the time you sent them. Bunyard does not seem right as to size—none of mine is so large as the size he gives—and the flesh seems white, not yellow, as he says.—ROLLO MEYER, *Walton Rectory.*

[The Apples sent were small in size, juicy, and of moderate flavour. Like Mr. Bunyard, we should call the flesh pale yellow. Size in Apples varies enormously with soil, climate and the stock on which they are worked. Perhaps it grows larger in Scotland.—ED.]

SCENT FROM STRAWBERRY BEDS.

MR. CORBETT'S letter in September 24 issue moves me to pay tribute to the same charm in the plants of "God's Best Berry." Last winter I spent two days on the weeds among my somewhat neglected beds, continually handling the Strawberry plants and runners in my labours. The work was done in gardening gloves of soft leather, and to this day every time I use the gloves my hands come forth rejoicing in a clean, sweet fragrance which is *of* the berry and yet not precisely that of the berry. Soap-makers might find here a hint of value.—R. HUDSON.

THE LILY SEASON IN SCOTLAND.

NOTWITHSTANDING the abnormal lack of moisture during the summer, Oriental Lilies, especially since the advent of the rains in August, have been much more successful than was anticipated by cultivators of those fascinating flowers. The difference, in growth and flowering effectiveness, from that of previous seasons, in such species as tigrinum splendens, candidum and Hansoni, was in many regions hardly perceptible. Lilium giganteum, the great Lily of the Himalayas, which is grandly grown in South-Western Scotland, and especially in such gardens as those of Castle

nnedy. Logan and Monreith, did not, for obvious sons, attain to its normal dimensions, nevertheless it was in many instances quite impressive. the gardens to which I have just alluded, it grown in very sheltered and congenial situations, asionally in soil previously occupied by Azaleas d Rhododendrons. Sir Herbert Maxwell, who ows it assiduously, has sent its seed to all ends the earth. In my own garden the Lilies that ve been most effective this season have been gaiflorum giganteum, speciosum magnificum (a ikingly handsome derivative from "Melpoene") and auratums platyphyllum and virginale. ese, in artistic association with such splendidly ective representatives of the glorious Gladioli Baron Joseph Hulot, Europa, Brenchlyensis d Niagara, have entirely transformed the aspect my flower borders, which I have never seen radiant before. During the season of drought gave liquid manure, very much diluted, to all y Lilies, only one of which, a fine specimen of ilium speciosum (which I admire equally for its xquisite beauty and refined fragrance), was isastrously affected by its influence. Lilies, as general rule, do not much appreciate manurial pplications, unless when the strength of such timulants has been reduced to a minimum; but ilium giganteum is a distinguished example of he law of variation.—DAVID R. WILLIAMSON.

OLD GARDENS AND NEW OWNERS.

I WAS taken last summer to see a beautiful old place, a house full of treasures, and from he windows one looked on to a garden of stately rees and lawns, old walls and bright herbaceous orders glowing in the sun. All true gardeners know the feelings of interest and pleasure with which one approaches such places. This garden is in one of the most favoured parts of the British Isles. Anything might grow there. I pictured to myself the great clumps of Lilies, the rare old Damask Roses, the sweet smelling herbs, and other and greater treasures. Then we went into the garden and it was planted almost entirely with Snapdragons! They were very fine ones, and I am very fond of Snapdragons, but that day I felt inclined to call them by their ugly and formal name of Antirrhinum. It was such a disappointment. What a scene of devastation there must have been when from the old garden the old flowers were cleared away. I only hope some made their way to the cottage gardens in the neighbourhood and were not all consumed in the bonfire. Where there were no Antirrhinums, there was bare earth; no weeds even! The place was painfully tidy. A new broom had been used indeed. Now the owner of this place is not a new owner, but he must have had a new gardener. The moral, I hope, is clear. Patience, and again patience, is the lesson of the garden. I would like every new owner of an old garden to give it a year, from the first Snowdrop to the last autumn Crocus, just watching and waiting, and only pulling up what is proved to be a weed. I am afraid this advice will not often be followed, but it can be followed in a greater or a lesser degree. It is so easy to destroy, so slow to build up. I once knew a neglected garden where three things gave me great pleasure. A big bed of Madonna Lilies, a plot, almost as large, of Gentiana acaulis, and a tree of Siberian Crab. A new gardener arrived, bustling and efficient. He took prizes for Sweet Peas and Vegetables, but my three treasures departed and were never seen again. Often a garden which has been well cared for and carefully planted has gone through a period of neglect which obscures its beauties to the casual eye. Wait but a little and give it a chance, and one can hardly fail to be rewarded. Of course, we all know that, given an open field, it is not necessary to fill it only with Antirrhinums. Garden planning and the nurserymen's lists are all too attractive for most of us, but there are some things which money will scarcely buy. I once heard a very rich lady directing her head-gardener to have a certain space in her English garden filled with the scarlet Tropæolum, which she had admired in the Highlands, and often wondered how far that order was carried out. In any old garden I would expect to find a wealth of interest, and, perhaps, some one unpurchasable treasure. Then, after patient watching and study, one can begin to add and to take away, and build up the picture as one would have it.—LYSKEN.

GARDENING OF THE WEEK

FOR NORTHERN GARDENS.

The Kitchen Garden.

French Beans have done remarkably well this season and are still bearing freely. Where late sowings have been made on borders in the open, spare sashes may be used for covering and thus prolonging the season of this highly prized vegetable.

Asparagus.—Cut down the foliage as soon as it is ripe and give the beds a thorough cleaning, afterwards applying a top-dressing of well decayed manure.

Seakale.—Where Seakale is grown in quantity for early forcing, every chance should be given the crowns to ripen thoroughly; so, where the lower foliage is turning yellow it should be removed, thus giving the crowns more exposure to light and air. In due course a good batch may be lifted and stored in a shed in readiness for forcing.

The Hardy Fruit Garden.

Plums and Damsons have been a very moderate crop in this district. Only on the wall trees was there anything to enthuse over, where Kirke's Blue, Jefferson and Coe's Golden Drop were noteworthy. Standard trees of the generally reliable Victoria were light of crop, owing to damage by late frost. Those who intend planting young trees should place their orders early and thus ensure seasonable delivery as well as a better selection.

Planting Apple trees.—Preparations may now be made for planting Apples. Should the soil prove heavy, suitable drainage must be provided. Avoid deep planting and spread out the young fibrous roots carefully, working in some roughly chopped loam and wood ash so that the heavy soil may be rendered porous and root action thereby encouraged. A few varieties which we find do well on heavy land are James Grieve, Worcester Pearmain, Ribston Pippin, Gascoyne's Scarlet, Ecklinville, Stirling Castle, Warner's King, Golden Spire, Annie Elizabeth, Bramley's Seedling, Lord Grosvenor and Lane's Prince Albert.

Storing Fruit.—Harvesting of late varieties still claims attention, the favourable spell of dry weather hastening the ripening of the fruit. The climatic conditions are also favourable to the hardening of the wood and ripening of the buds for next season's crop.

Plants Under Glass.

Late Tomatoes.—Encourage the pollination of these by brushing lightly over with a rabbit's tail, and admit air during favourable weather. Immediately the plants have a fair number of trusses set they may be stopped, which will induce the fruit to swell more quickly. A brisk temperature, owing to the shortening days and more changeable weather, is now necessary.

General Work.—At this time, when accommodation must be made for winter and spring-flowering plants, one should not hesitate to discard those which are of no particular value. In most places there is a tendency to retain too many plants, with the result that they are generally crushed together and serve no particular purpose. Set aside the necessary quantity for stock and discard the remainder, as overcrowding only encourages insect pests. Climbing plants on pillars or covering back walls should now be pruned and tied in, taking advantage of wet weather for the work. In the conservatory and cool greenhouse a little fire heat will now be necessary so that the atmosphere may be kept buoyant.

Propagating Perpetual-flowering Carnations.—A good batch of cuttings of these ever popular plants may now be got in and will be found to strike freely. Choose cuttings from healthy plants and insert either in a proper propagating case or in an ordinary box, 7ins. or 8ins. deep, filled to a depth of 5ins. with clean sharp sand and dibble the cuttings in firmly. Give a thorough watering when finished. Afterwards place a piece of glass closely over the box to induce quick rooting and retain a more even humidity during that period. It is almost impossible to obtain a successful strike if the cuttings are allowed to wilt or become dry. Shade from the direct rays of the sun and keep in a temperature of from 55° to 60°.

Ferns and Foliage Plants.—Young plants of Pteris, Nephrolepis and Asparagus in need of potting should now be given attention. After repotting they may be plunged in fibre for a while. Keep the atmosphere in a moist condition and spray the young plants regularly. A number may be kept in small pots for convenience in using in bowls of bulbs.

Early Bulbs.—Examine Paper White Narcissi and Roman Hyacinths which have been plunged for a time and if well rooted, transfer to a cold frame and keep shaded from sunshine until the top growth assumes a darker hue. In the course of a fortnight they may be advanced to a warm pit and subjected to gentle forcing.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

FOR SOUTHERN GARDENS.

The Flower Garden.

Canterbury Bells and Sweet Williams are two of our most popular biennials, and to get the best results, the young plants which are growing in nursery quarters should be placed in their flowering positions as soon as possible. This will enable the plants to get thoroughly established before winter. Rather than plant very late in an unfavourable autumn, it is better to allow the plants to remain where they are until the first favourable opportunity presents itself in February or March.

Calceolaria Cuttings should now be inserted in sandy soil in cold frames. Give one good watering to consolidate the soil, and keep the frames close until the cuttings are rooted, afterwards affording air upon all favourable occasions. Protection must be given from severe frosts. For general bedding purposes Golden Gem and Brownii are usually met with, but Calceolaria amplexicaulis with its lemon toned flowers is one of the best, and it is good to see such a plant authority as Miss Jekyll writing so favourably of it. While with the late Mr. Fife at Lockinge I remember the really excellent use he made of it for bedding, more especially in the standard form.

The Kitchen Garden.

The Cabbage Plot may be termed one of the permanent "stand-bys" of any garden where constant supplies for the kitchen are required. With judicious planting it is possible always to have a good cutting either of developed hearts or the young growths which follow their removal. These will now be growing freely where the summer bed has been in use, and to encourage them give the bed a good cleansing from decayed leaves and weeds, afterwards lightly digging in a dressing of wood-ash and bonemeal.

Brussels Sprouts on well worked ground have stood the hot season well, and the early planted batch are promising most satisfactory yields. A little more light and air would now be beneficial to the early buttons, so a few of the bottom leaves should be removed. In greatly exposed positions it may be advisable to stake any of the taller growing varieties which are being disturbed too much by the wind.

Routine Work.—Give as soon as necessary the final moulding to early Celery and, as previously advised, add a little to later plants as needed. Give similar attention to Leeks where these plants were not inserted in deep holes. The Seakale bed should be cleared of weeds and decayed leaves, so that the crowns may derive full benefit from light and air. Where cold frames are to

be spared get a supply of Lettuce plants in for early work.

The Hardy Fruit Garden.

Morello Cherries and Apricots may now each have any useless wood removed. It is better not to defer this until winter. Taken in hand now, the work can be much more quickly accomplished, and in the case of Apricots the cuts will heal much more quickly now than in bad weather, an important matter where these trees give trouble by gumming. In dealing with old and possibly neglected Apricot trees which have long, awkward spurs, a portion of these should be cut hard back to induce the formation of fruit buds nearer the wall, and if growth during the season was too crowded, it would be better to remove a few spurs entirely. This treatment of old trees should, however, be spread over several seasons; and it may be possible sometimes with advantage to carry out a little of it during the early part of summer, provided no sacrifice is made of wood carrying fruit. It is noticeable how quickly pruning wounds heal at that time. Morello Cherries, which fruit mainly on the young wood, should have a well balanced supply of the young shoots trained into position, removing at the same time as much as possible of the exhausted wood. As the Morello also fruits well when spurred in, this should be borne in mind when cutting out some of the strong shoots, taking care to cut so as to leave a few strong buds, where this may be done without interfering with the principal fruiting wood.

Plants Under Glass.

Euphorbias Jacquiniæflora and Pulcherrima should, if they have been grown in cool quarters, now be removed to a safer temperature, giving the warmer position to the first named. Jacquiniæflora should be so trained and arranged in its flowering place that the full beauty of the long arching growths of flower heads may be appreciated. Pulcherrima in its several shades is equally effective whether flowered at a height of 2ft. or 12ft., and it is simply a matter of growing them to suit requirements. Neither plant must be over-watered, and no stimulants should be given until the flowering pots are well filled with roots.

Tuberous Plants, such as Gloxinias, Caladiums and Begonias, having passed their best, should be given less water as the plants ripen and die down, afterwards drying them off entirely in an airy, warm pit previous to storing away on shelves in suitable temperature for resting. The two former keep best if not allowed to fall below 45°, but Begonias may safely be wintered at a temperature several degrees lower. All must be secure from dampness.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

New and Rare Plants

THE great decorative value of Michaelmas Daisies and Dahlias was apparent at the latest R.H.S. Show when Messrs. H. J. Jones, Limited, received the highest award of a gold medal for a magnificent exhibit, composed chiefly of the best Michaelmas Daisies in great profusion. Such pink-flowered varieties as Antwerp, Weinholtz and Pink Perfection were particularly beautiful, while King of the Belgians, Anita Ballard and Dick Ballard of the double-flowered sorts also found many admirers.

A large collection of Michaelmas Daisies by Messrs. Wm. Cutbush and Sons was exceedingly artistic and show how the different types may be effectively arranged. In this exhibit Louvain, a large flowered single pink, was very striking.

Dahlias were shown by many firms and it was particularly noticeable how favoured are the varieties most adapted for garden decoration, for nearly all the blooms had long stout stems and carried themselves well. Of the very many decorative varieties, Mrs. J. Green, in Mr. J. B. Riding's exhibit took the eye more than any other. It is of rather more than medium size, but perfect in shape and of glowing crimson colour. Near by, Porthos, another decorative bloom of similar size, attracted by reason of its uncommon colouring, which may best be described as shades of plum and rosy-maroon. An uncommon Dahlia was seen in a valuable collection by Messrs. Carter Page and Co. It is practically the only variety of anemone-flowered Dahlia (some prefer to term it a Clematis Dahlia). The single row of outer petals are pointed and set well apart, while the centre is made up of a compact cluster of short, round, pale primrose quills—a very beautiful flower indeed.

Many Pompons in the large exhibit by Messrs. J. Cheal and Sons, charmed lovers of these dainty little Dahlias, who realise how difficult it is to grow them small and perfect in shape. On the smallest provocation this type becomes too large and their charm is lost.

Among the general border flowers the tall Lobelia fulgens hybrids, particularly the pink Mrs. Humbert, shown by Messrs. B. Ladhams, Limited, were very beautiful. Elsholtzia Stauntonii, which is a comparatively rare border plant was shown by Mr. G. Reuthe. It may almost be described as being a fairly tall herbaceous plant with the flowers of a shrubby Veronica in rather more narrow spikes of pale lavender. Salvia Grahami, the half hardy shrubby Mexican species that gives such brilliant flowers where it succeeds, was also seen in one exhibit alongside the tiny flowered Fuchsia Codringtonii.

Gladiolus Snow Glory.—A very beautiful late flowering Gladiolus. The spike is not tall, but it is well furnished with large blooms. Most of the petals are of pale creamy colour, almost white, and the three smaller lower segments are flushed with pale buff, which has hazy rosy purple lines in the centre. The margins of the petals are prettily frilled. Award of merit to Major Churcher.

G. Golden Glory.—Of pale golden colour, which is brightened by a light crimson and gold lip. A very showy Gladiolus bearing large roundish flowers on a short spike. Shown by Major Churcher.

The following Dahlias were selected for trial at Wisley:—

Belah.—A bright little single of perfectly round shape and scarlet colour, shaded with cerise. A distinct zone around the eye is yellow.

Silver Queen.—A medium-sized decorative variety of silvery lilac colour and a whitish centre

Doreen.—This is a very good show Dahlia of lilac-rose colour.

Lady Beatty.—A miniature Pæony-flowered variety, salmon-fawn in colour and said to be a very free bloomer. The above were shown by Messrs. J. Cheal and Sons.

Elfrida.—A long stemmed Pæony-flowered variety of good form and ruby and white colouring.

Faithful.—A soft yellow Pæony-flowered bloom of considerable attractions.

Briton.—A miniature Pæony-flowered Dahlia of good type. The deep amber colour is heavily flushed with golden fawn.

Fusee.—A flame-coloured miniature Pæony-flowered bloom which should become very popular.

Tartar.—An attractive, deep crimson-maroon miniature Pæony-flowered variety.

The R.H.S. Show, November 1.—Orchids and Barberries.—The Council of the Royal Horticultural Society hope that the special features of this meeting will be displays of Orchids by amateur growers and collections of various species of Berberis in fruit which will be considered at the Conference at 3 p.m. The groups of Orchids will be staged in competition for the challenge cups which have been presented to the Royal Horticultural Society. The more important of these cups is open to all amateurs, while the competition for the other is confined to amateurs who employ not more than three assistants, including the head gardener, in their Orchid houses. Groups for this cup must not exceed 60 sq. ft.

National Sweet Pea Society's Trials.—The Novelty Trials of the above Society will be held again in 1922 at the Trial Grounds of the University College, Reading, under the superintendence of Mr. A. J. Cobb. All Sweet Peas for these trials must be sent in the following manner, viz., not less than twenty seeds each trial. They must be placed in a plain packet; this packet must be enclosed in an outer packet, upon which must appear the name or number of the variety, its colour section and the sender's name and address. For each separate trial the charge is 7s. 6d., which must be sent with the seed to Mr. Henry D. Tigwell, Secretary National Sweet Pea Society, Greenford, Middlesex. All varieties for trial must be in the hands of the Secretary on or before October 14, 1921, and none can be accepted after that date.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

BORDER PINKS (H. W. M., Bath).—The address asked for is Mr. C. H. Herbert, Nurseryman, Acocks Green, Birmingham.

A LITTLE CREEPER (S. H. B.).—Haplopappus (Aplopappus) croceus.

DAHLIAS NOT OPENING (A. V. W.).—We can discover no cause for the Dahlias behaving as you say, for the head sent had already flowered and was setting seed!

ECCENTRIC FLOWERING IN RHODODENDRONS (A. F. R., Galashiels).—We have never seen anything quite like the Rhododendron shoot you send. The semi-double flowers borne singly on short leafy axillary shoots suggest that the flower buds for next year were in process of formation when a sudden access of water after a period of drought induced the bud so partially modified to grow out and become a growth shoot.

PANSIES, ETC., DAMAGED (E. B.).—The grub sent is a possible cause of the trouble. It was one of the surface grubs, Agrotis exclamationis, the larva of a moth. These are difficult to deal with, but poison bait made by mixing arsenic in bran is a good way to destroy them. If the bait be covered with a tile, other creatures are not likely to get at it.

PLANTING TULIPS AND "BRANCHING FORGET-ME-NOT" (W. D., Devon).—The bulbs should be planted as soon as possible while they are dormant; it is never wise to wait until the bulbs have sprouted. Myosotis sylvatica has the most spreading habit of the Forget-me-nots, but none is really "branching." This variety can be had with either blue, pink or white flowers.

THE GREENHOUSE.

DAMAGED FOLIAGE (E. M. B., Northam).—All the foliage sent has been attacked by Thrip. Spray the plants with a nicotine spray or with Katakilla, or fumigate the house thoroughly. Your plant was much decayed when it reached us, but is perhaps Eranthemum cinnabarium.

FUCHSIA BLOOMS FALLING (A. G., Highgate).—The continued falling of the Fuchsia blooms before they are fully open points to some error in cultivation, probably in the application of water—either too much or too little would have this effect, though it is most likely due to alternating periods of drought and moisture. Greenhouse Fuchsias thrive best under cool conditions shaded from direct sunlight during the middle of the day.

FRUIT GARDEN.

APPLE TREE DYING (W. D., Devon).—Judging from the branchlets received the Cox's Orange Pippin is dying, so it would not be worth while trying to save it. The drought is probably partly to blame, but the variety does not thrive everywhere, so, when replacing the tree, it would be well to try Allington Pippin.

FINISHING AND GATHERING MELONS (Communis).—Three flowers of the Melon should, if possible, be carefully fertilised the same day and all other fruits on that plant removed. Two and probably three Melons should then reach the ripening stage simultaneously. Water should be gradually withheld and the fruits finished on the Vine.

THE GARDEN

No. 2604.—Vol. LXXXV.] [October 15, 1921.

NOTES OF THE WEEK

THE British-Grown Fruit Show at Vincent Square was largely attended, and quality and quantity were, on the whole, excellent. The fruit was, speaking generally, better coloured than might ve been expected in such a season, but, fruit l autumn colour notwithstanding, the weather de it difficult to believe that we had left summer behind. The Apple is, of all fruits, the most ful, and it is only right that it should largely dominate at these exhibitions, but this is above an Apple year and it was difficult at first to lise the presence of other fruits at all. In the nexe, which at the ordinary fortnightly meetings devoted to Orchids, there were, however, many hes of excellent Pears, while Grapes were fairly merous and other seasonable fruits were to be nd. Messrs. Bunyard's gold medal group of rdy fruits—Apples and Pears, in actual fact—s truly wonderful.

Minimising the Effects of the Drought.—excellent article in this issue on the effect on hododendrons of the drought and the steps hich may still be taken to minimise damage is orth careful study. The dried-out root-ball, hich will not again absorb water unless drastic eatment is resorted to, not peculiar to the hododendron. It will t, alas! be practicable lift and soak conifers d large evergreens here this trouble is agnosed, but in the case choice specimens, a ench opened around e tree and flooded with ater would do something wards lessening the evil. would, in many rdens, be a huge task lift, soak and replant l the Rhododendrons, ut, after all, should they il to recover they will ave to be pulled up nd replaced! Other merican plants besides hododendrons might ell be lifted and left soak, particularly zaleas, Kalmias and ieris floribunda. Another roup of plants which as suffered widely from he drought and which would be greatly bene ted by similar treat ent is the Japanese Maple family

Autumn-Flowering Bulbous Plants.—Occasion has from time to time been taken to comment on plants which have luxuriated in the unusual weather conditions of the past summer. We now publish in our Correspondence Columns yet further testimony to the flowering of the Belladonna Lily, and it is evident that a misapprehension prevails in some quarters as to the cause of this phenomenon. Working, presumably, on a supposed analogy with the case of, let us say, the Narcissus or the Gladiolus, it is in some cases wrongly assumed that the remarkable floriferousness of this beautiful plant cannot be traceable to climatic conditions this season. The analogy is, of course, complete if properly applied. The Gladiolus stores within the ripening bulb the nucleus, as it were, of next season s flower-spike and then lies dormant for the winter. The "Belladonna" similarly develops its tissues and ripens off but instead of postponing further growth until next season, proceeds almost at once to elaborate the flower-spike and, afterwards, throws up its foliage once more before winter. This procedure is also followed by such other autumn-flowering bulbs as Colchicums and autumn-flowering Crocuses. If these last flowered but a few months later we should class them with next year's flowers, as we do their more commonly met-with relatives.

The Border Carnation.—Attention is called on another page to the great progress which has been made towards establishing the "Border" Carnation as a decorative garden plant. There is no doubt that, if a suitable selection be made, there are few gardens in which these graceful flowers could not be employed advantageously. Many of the very best kinds for outdoor work are powerfully fragrant, and the prized Clove scent may now be obtained in a wide selection of varieties The hardiness of the Carnation is beyond question. It will stand extremes of cold which, fortunately, we never experience in Britain, and it has been safely exported to the Antipodes frozen solid and sent in cold store! Excess of moisture is a greater enemy. There is, none the less, no real difficulty in wintering this type of Carnation outdoors anywhere in Britain. Once let it be generally known that there are varieties which need no calyx bands, no elaborate staking and little more attention than the ordinary denizens of the herbaceous border, and the popularity of this charming flower will rapidly increase.

The Rock Garden.—There is great pressure of work in the garden this autumn, but we have now reached the middle of October and it is highly desirable to get any planting or re-planting in the rock garden carried out without further delay. Except in the case of plants of doubtful hardiness, autumn is a much better time to plant than spring, and more satisfactory results are certain, on the average, to be obtained. Gentiana verna, though well known to gardeners and, indeed, to be met with in most gardens of any pretentions, is seldom seen in a really flourishing condition. It is, like its big cousin, the Gentianella, a great lover of stones, though it is faddier in its requirements than that beautiful, if ubiquitous species G. verna generally seems most happy and certainly is shown to greatest advantage on [illegible]

A SPLASH OF AZURE—GENTIANA VERNA IN THE MORAINE.

The RECTORY GARDEN, ACTON BURNELL

The pictures well illustrate the possibilities of the small garden. This garden, despite its rigidity and formality, is undoubtedly very beautiful.

As writers so often say of a plant, Acton Burnell deserves to be much more widely known than it is. Comparatively few can, offhand, locate the village or say why it should be famous; yet it was the home of one of our very greatest Lord Chancellors—Bishop Burnel; and it has ruins and a church of supreme interest to the antiquarian, the archæologist and the historian.

The present rectory garden merits the attention of gardeners. It, too, deserves to be widely known. Here is to be seen a splendid example of the much maligned system of "bedding out," purified from its garishness and brought to very great perfection by the continuous thought and care of the venerable rector, who, if God spares him until next February, will then have been his own head-gardener for the long space of sixty years. I would like to say more about my old friend, William Serjeantson, than would be seemly in a horticultural journal. He is a typical old-fashioned sportsman-parson. He has hunted, shot and fished. He has judged dogs in Moscow and wild flowers at "Shrewsbury." He has reared famous breeds of fowls. The careful restoration of the ancient church proclaims him a painstaking servant of God, and his intimate friendship with his next-door neighbour, the Catholic priest, his kindly and genial spirit. If, now, the infirmities of age have compelled him to withdraw from almost all the manifold activities of his younger days, the spirit is still more than willing, if the flesh is weak. His favourite book when he feels tired and "down" is Sir Herbert Maxwell's "Memories of the Months." Never has the author had a more genuine tribute of appreciation paid to his work than when the old Rector said to me: "Whenever I feel a bit downish and done up I get out one of Maxwell's volumes and have a read; *nothing* bucks me up as they do."

But I must leave the gardener and come to the garden. Here let me say how glad I am that Mr. Serjeantson is not a squire with many broad acres at his disposal, but that, owing to circumstances over which he has no control, his abundant energies and his grand imaginings have been "cabined, cribbed and confined," for there is something in the old man of the spirit of Kent and Wheatley and their followers, the landscapists, who would make a sort of dissolving view of all the surroundings of our stately homes, so that it should be difficult to say where garden ends or park begins. As it is, there is a clear line of demarcation between the Rectory domain and what is outside, and to this, probably, more than anything else we owe the little gem which I am about to describe. Not that the whole garden is given up to bedding. There are other compartments, each in their way meriting notice. There is a well stocked orchard. There is a well cropped kitchen garden and a good sized Potato patch filled to a large extent with Kerr's Pink. The tiny hardy fernery is full of rare varieties, including some home-raised seedlings. The rock garden, which is on your left as you pass from the garden door to the parterre (I think this is the proper word to denote the bedded out part) contains some very modern introductions from China and elsewhere, as well as some very old inhabitants like Saxifraga Cotyledon pyramidalis, the original plant of which came with Mr. Serjeantson to Acton Burnell in 1862 and which he considers "a better thing" than the much vaunted S. longifolia. The diminutive rose garden must not be forgotten. The old man has his preferences and his antipathies, and also what so many of us have not, the courage of his opinions. Novelties of all kinds are always being tried: some of them only novelties at Acton Burnell, some real "new" which, in catalogue phraseology, means anything introduced within an *x* number of years. Accordingly, the old gardener has taken Ophelia to his heart, but Los Angeles is classed as a "poor thing." The President of the Rose Society puts Daffodils among his Roses, Mr. Serjeantson puts Gladioli. He has a good many here and elsewhere up and down the garden, and it is very evident that some of the later varieties, like Princeps and Halley, have greatly impressed him. His last invitation

BEDDING IN EXCELSIS—THE LOWER SQUARE.

THE FLORAL BASKET AND A GLIMPSE ON THE UPPER SQUARE.

s seasoned with a "Come before the Gladioli over," and when at length I was able to go was obviously much troubled that I was not time to see the tall, sedate, rosy Mrs. Charles

A GENERAL VIEW OF THE TWO PARTERRES.

Palmer at its best. It was *the* flower of the whole arden.

The long herbaceous border is full, at all times, f interest—only when I was there he was a bit ad that he had no Montbretia Star of the East o show, because he had given his son the wrong ox of corms to take home in the spring.

We must now pass on, for it is high time we rrived at the *piece de resistance*—the squares and orders given up to bedding with a whole-hearted nthusiasm which sixty years of thought and vork finds as fresh and keen as in the distant past, vhen to ring the changes upon scarlet Geraniums, lue Lobelias and yellow Calceolarias, with, perhance, an odd Gazania, Ageratum and Verbena hrown in, was considered by all good gardeners o be the very acme of perfection. (*The Gardener* or 1867, page 220.)

Tempora mutantur, nos et mutamur in illis, he bedding too. Continuous attendances at our big shows, like Chelsea, Holland House and Shrewsbury; frequent visits to gardens which are well done; and a sure instinct in choosing just the things that will suit, together with a Spartan strength of mind which can calmly consign to "Kingdom Come" the unfit that have been tried and found wanting, and a faculty of friendship so that to the faithful ones who have helped his designs in the time of need he "sticketh closer than to a brother," to wit, the original Violetta of Dr. Stuart and the brown horseshoe-marked Zonal Vandyke. The general plan of the whole is as follows: There are, roughly speaking, two squares, one about three feet above the other. The uppermost has its surface broken by two tapering cones of clipped Yew and two of Thuya dolabrata variegata which are treated in an identical manner and which seem exactly to suit their surroundings—perhaps because "fol: var:" (or variegated foliage), as will be seen from the coming list, plays so great a part in the general scheme. The lower square has a fine centre of Bambusa viridi-striata—or, as we ought to call it now, Arundinaria Simoni—quite 10ft. high; and elsewhere there are old-fashioned standard Fuchsias, four dwarf cones of common Yew and a couple of Palms (Cordyline australis). The beds on the space on the left of the broad walk leading to the tennis lawn and orchard are broken on the lower level by an Irish Yew and on the higher one by a splendid standard Holly with gilded foliage. The beds are so many and varied in shape that it is only possible to give two or three examples of how they are filled. (1) There is an attractive ribbon border formed by a zigzag of fine plants of Echeveria italica rosea, with the intervening triangles filled on one side with a tiny dwarf fibrous-rooted Begonia, Bronze Queen, and on the other by the pretty, soft-toned Lobelia Waverley Blue. (2) An elaborate raised bed has an edging of variegated Arabis, inside which there are blocks of Begonia Bronze Queen and Echeveria italica rosea. This last is continued to form a covering round the oblong raised centre, where in turn we find a thick groundwork of the small Ageratum Bishop Burnel, from which arise three plants of variegated leaved Abutilon. (3) A simple bed, of which type there are many, has an edging of Ageratum Bishop Burnel and a centre of the Zonal Vandyke. (4) The once very fashionable basket, which forms the middle of the upper square, has sides and handle of Lonicera japonica aureo-reticulata, while the centre is a mass of an especially good form of Aster Thomsoni. Very little more than a bare list of names of the various plants used will have to suffice, although when one remembers the tale of how this and that acquisition was first acquired it will not be easy to do so. The gardener has his "lands" and his "rights and lefts" as well as the fisherman or the shooter. To go to a garden where the owner can tell yarns of his plants at least doubles the pleasure of being there. Here at last follows the list of what we find in addition to those already mentioned: Four Dimorphanthus mandschuricus fol. var.; Viola Blue Gown; Zonals Black Vesuvius, Snow Queen (very tiny) and Mrs. Parker (distinct white edge); Heliotrope President Garfield; Ivy-leaved Pelargoniums Charles Turner and Mme. Crousse; Phlox Comtesse Jarnac (variegated leaves); Gladiolus White Giant (in the distance it looked like Madonna Lilies rising out of a bed of soft rose-coloured Antirrhinums); common Polemonium, Arabis, Aubrietia and Plantain, each one with variegated foliage; Echeveria secunda glauca; Funkia undulata variegata; Fuchsia fulgens hybrids; and several other plants less frequently used. The illustrations will enable readers to form some idea of how it all looks, and I hope what I have written will still further help them.

JOSEPH JACOB.

A MAGNIFICENT CLUMP OF LILIUM MONADELPHUM SZOVITZIANUM

THE INCOMPARABLE GLADIOLUS

Reflections on the progress of this increasingly popular garden flower, with notes on some of the best varieties to date.

IF ever flower possessed the virtue of beauty, of stark, eye-convincing, flagrant beauty, surely it is the Gladiolus. I am not thinking now of even the best varieties of the gandavensis, the Lemoinei, Childsii or nancieanus groups which were the Gladioli of yesteryear, but of the modern development of these, the result of interbreeding all the florists' sections, thereby gaining by selection the best qualities of each. Messrs. Kelway of Langport have carried this work to great length, and produced many flowers of conspicuous merit. The most noteworthy of these, chosen from an up-to-date lot, are Fieldmouse (very remarkable in colour, a sort of smoky old rose shade with red blotch), Nemesis, Countess of Leicester (a huge bloom of bright colour), J. W. Kelway, John Churchill Craigie, Kelway's Painted Lady, Lady Muriel Digby and Orby. The blotch on the lower petals of the last but one is most fascinating. Blood-red in colour, it is overlaid with what looks like a film of glistening silvery mauve, a unique effect. All of these are superlatively beautiful, but unfortunately they are costly and could hardly be used for extensive planting.

Thanks to my friend Major Churcher of Alverstoke, the leading amateur Gladiolus grower in the country, I was enabled to try this year some of the newer American varieties, and I must own the effect has been to arrest the complete turning of my affections to the Primulinus hybrids, whose allurements will presently make every garden lover a Gladiolus grower. I am not an apt believer in the marvellous things given birth to so frequently in Yankeeland, but we must, at the same time, give honour to whom it is due, and to the originator of the ruffled Gladiolus I doff my hat. To have seen Alton or Favourite or E. J. Shaylor among the ruffled section, or Byron L. Smith in the plain flowered, is to wonder where the loveliness of this plant is going to end. The first three and another called Red, White and Gold, which, by the way, rather disappointed me, are the only flowers of this type I have seen but I am already looking forward to trying a much wider range of these Kunderdii "ruffles" next summer. Time and again when Alton was in flower, and this must have been for over a fortnight, I stopped in passing to have another look at the glorious thing lest I should have missed some subtle shade of its fine complexion and the better to mirror in memory its lovely form till I see it in bloom again another season. I cannot catch the correct colour description of Alton from the raiser's catalogue. He simply calls it "a wonderful ruffled variety of finest orange colour—a magnificent new Gladiolus." I heartily agree with the last remark, and readers must take my word for it that it is all the raiser claims. My own note as to colour is rich salmon orange with an intense fiery orange scarlet blotch on the lower segments, while the edges of the flower are daintily crimped or ruffled, giving it a most refined aspect.

THE CRIMPED PETALLED VARIETY FAVOURITE.

A BEAUTIFUL FLOWER WITH AN UGLY NAME—GLADIOLUS BYRON L. SMITH.

The photographs of Alton, Favourite and Byron L. Smith give no real idea of the beauty of the respective flowers, while the grace of Alton seems to have vanished at the photographer's touch. These photographs were kindly lent by Major Churcher. Favourite, a new one this year, is practically self-coloured, deep salmon, but extremely bright in tone, and the flowers are particularly large and well placed on the spike, as many as six blooms being open at a time.

E. J. Shaylor is a pure deep rose pink, well ru and a handsome flower of shapely proport I wish Byron L. Smith had been called al anything else than Byron Smith. Such a n for a flower like this is sheer brutality, and us brutality at that, with a hundred names impl winsomeness and sweetness at beck and

THE BEAUTIFUL GLADIOLUS ALTON.

No net of words could capture its charms a put them in black and white. The morning first flower opened I stared at this strange creatu as if it had dropped from unknown realms. seemed unworldly and unreal, a bit of colour unexpected, so ethereal, so ungladiolus like. Ho to describe it I know not. The catalogue say "Refined lavender pink on white ground; colo equal to a very choice Cattleya Orchid." We that is but a prosy way to speak of Byron, a lavender pink is hardly right anyway. Th palest, most delicate pinkish mauve seems mo like it, but the pigmentation looks so fragile a fugitive that it might spirit itself away as yo look at it. The lower segments, too, are adorne with relatively large ghostly yellow blotch which seem to give the last unreal touch to th wonderful flower.

Another variety that gave me pleasure th year was Incontestable, a superb white with cle cut scarlet red blotch, a large, clean-lookin flower, reminiscent of Kelway's Painted Lad which was decorated with an award last year Vincent Square. Jessie Palmer is late flowerin and of superb quality. The ground colour creamy white stained delicate pink, the lowe segments being deeper cream with a very lovel feathered crimson blotch. Others of note ar Billy Red, an intense cardinal red with deepe shading, a choice bit of rich colour; Glare, glowin vermilion red, very extraordinary; Herada, on of the finest mauve sorts; Kunderd's Orange smaller in flower than many, but strikingly ric and bright. I must close with Jenny Lind whose arching shoulder petals remind one of th Primulinus type, though not classed therewith The colour is soft pastel pink, extremely refine and distinctive.

J. L. GIBSON.

Garden Notes from a Western Seaboard

EUCRYPHIA CORDIFOLIA, which began to flower on August 16, is still well set with bloom at the end of September. This fine shrub or small tree is reputed to be difficult to propagate, which may account for its being seldom seen, even in mild districts. Here it sets seed every year, but I have never succeeded in recovering any when ripe, as it requires eighteen months to reach that condition. Cuttings of the young wood strike fairly freely, and established plants send up suckers. We have here a small plant of the Australian Eucryphia Billardieri which has not yet flowered. I understand that it is inferior in beauty to the other two species. The true place of these three plants has been a puzzling problem to botanists, who have ended by classifying them as constituting a separate genus—Eucryphiaceæ. They are almost as impatient as Rhododendrons of lime in the soil, and much disappointment has been experienced by those who were unaware of their requirements in this respect. They demand a well drained, but rather moist, situation.

Under the influence of copious autumnal showers many plants have put forth unusually liberal second bloom. Hypericum reptans, which gave a fine display in July, is now (September 22) giving a still finer one. On one part of an inclined retaining wall it has spread into a flat carpet 6ft. across so densely covered with fleshy petalled golden flowers and ruddy buds that hardly any foliage remains visible.

It is only by ruthless expulsion of plants inferior in beauty or of unsatisfactory behaviour that one can provide room for a fraction of the innumerable desirable things that have been introduced of late years. Praise is often lavished in gardening literature on the so-called Californian Fuchsia—Zauchsneria—which, of course, is not a Fuchsia at all, but a member of the Evening Primrose order—Onagraceæ. Well, I have never yet seen it justify the great space which it occupies on rockwork. True, the flowers are individually brilliant, but they are not produced simultaneously enough to correspond with the mass of grey-green foliage, and the flowering season is very brief. Out it goes, therefore, to make way for something better. Similar treatment has been executed to-day on the great Orange Day Lily—Hemerocallis aurantiaca major—a splendid plant if it were only more liberal of its bloom. The clump which we eradicated this afternoon weighed half a hundredweight, and bore but a single flowering stem. Perhaps we cannot provide it with enough hot sunshine.

Dracocephalum Forresti and D. Isabellæ, recently introduced from Western China, will prove welcome additions to autumnal flowers if they retain as older plants the compact habit and prolonged blooming which distinguishes them in youth. The deep purplish blue blossom of the first named species is well set off by rich green foliage, which, before the plant comes into flower, might cause it to be mistaken for some kind of Heath. Each succeeding year brings an addition to the myriad varieties of Aster. Admitting, as everyone must do, the great improvement wrought by florists in the Novæ-Angliæ and Novi-Belgii groups, I must own to a predilection, perhaps not quite free from pedantry, for fine natural species over the showiest manufactured article. There seems some risk of the former being eclipsed by the newcomers and overlooked, wherefore I mention A. pyrenæus as a border plant of merit. It grows 1½ft. or 2ft. high, bearing flowers 1½ins. across, the outer rays being of the same delicate rosy lavender as those of A. Thomsoni. The stems are symmetrically clothed with linear-lanceolate leaves of a pleasing dull green.

Two Monkshoods—Aconitum Fischeri from North America, and A. Wilsoni from China—are simply indispensable at this season. All other Monkshoods are past, except the freakish climber, A. Vilmorinianum; but these two carry their blue spires well into October. Nature's *tours-de-force* sometimes suggest practical jokes. Not even the most daring *modiste* would venture, methinks, upon an arrangement of magenta and orange. This is the livery bestowed upon Senecio pulcher, and strange as it may seem the result is satisfactory. If the ray florets are not actual magenta, they approach parlously near that strident hue, and absolutely defy imitation through pigments of human manufacture.

Amaryllis Belladonna is returning lavish interest on summer sunshine. Having stuffed it in in every avaliable space at the base of sunny walls, we are hard put to it in finding room for Nerine Bowdeni, which, flowering at the same season, ought to be kept apart from its more robust rival, for its flowers are more cunningly sculptured and are of similar colouring.

Vaccinium corymbosum is now a pillar of fire, but the effect of the long drought has been to incline Cercidiphyllum japonicum to yellow tints in place of its usual carmine splendour.

HERBERT MAXWELL.

Rhododendrons and Rhododendrons!

A plea for the serviceable and beautiful garden hybrid. Some lessons of the drought, and hints on restoring damaged specimens.

THE many articles which appear from time to time, in papers and periodicals devoted to gardening, on the subject of Rhododendrons are nearly all confined to notes and remarks on recent species introduced from China. Without in any way belittling the importance of these writings on species, it would seem advisable from the point of view of those amateurs who are gardeners primarily to create a beautiful picture rather than to further the interests of science, that more attention and instruction should be given in regard to the planting of the true garden hybrid Rhododendrons. The subject has been dealt with from many points of view for the past half-century, but there is always a new generation cropping up to whom the simplest things, unexplained, present great difficulties, and a few simple articles dealing with hybrid Rhododendrons from the point of view of this class of gardener might be of interest to many of your readers whose scientific knowledge is nil and whose information generally on the subject may not be up to date.

The drought of 1921 will not be forgotten for many years. Going round gardens at the present time is a heart-breaking task, but lessons may be learnt, and perhaps no class of plant has suffered more than Rhododendrons, under circumstances which might have been prevented, not so far as to prevent any damage, but certainly sufficient to have kept the plants alive.

The two great lessons to be learnt are preparation of soil prior to planting and cultivation after the plants are established. Rhododendrons are liable in droughty conditions and when badly planted to dry through the ball, and once in this condition, unless nature intervenes or a friendly hand is drastically applied, the plant is doomed. If it does not die it will certainly suffer to such an extent as to be an unsightly object in the garden. The preparation of soil naturally depends to a large extent on the existing and natural conditions where the plantings are to be made.

On the formation known as the "Bagshot Sands," where, perhaps, Rhododendrons do as well as anywhere in this country, the great secret is sufficient depth of cultivation. In this formation there is frequently a stratum made up of sand, gravel and, in some cases, iron, forming what is locally known as a pan. It is variable in depth, on the hill tops very near the surface and in valleys running to a depth of several feet. Where this occurs, it may be dismissed as of no consequence, but on the hill tops and where there is less depth than 3ft. it is absolutely essential for the wellbeing of the plants that this mass of pan should be thoroughly broken up, and it is advisable that it should be excavated and the soil made up with good turfy top spit or leaf-mould to the proportionate depth, with one stipulation, that the top of the bed when completed and planted should not be raised above the level of the natural soil.

The drainage of the Bagshot Sands when the ground is properly broken up is very thorough and very quick. The artificial raising of the level increases this, and as moisture retained as long as possible is of great value, it follows that any artificial drainage, such as the raising of beds, is detrimental to the eventual well doing of what is planted. It is quite evident on visiting gardens when the gardener or owner thinks that a plant, once planted needs no further attention. The gardener with a sense of tidiness goes round two or three times a year and rakes or sweeps off any leaves or decayed vegetation or apparently extraneous matter, forgetting that Nature has a way of providing food for plants which have to look after themselves. He, perhaps rightly, considers that the garden should be kept tidy, but he forgets to add in some form or another the food which he has deliberately stolen from his plants.

All Rhododendrons, and indeed there is no need to confine it to this class of plant, should be pricked over, hoed and the soil generally cultivated from time to time—throughout a period of drought perhaps more than at any other time—and a liberal mulching once or twice a year should be given to the plants to replace the food which Nature in an ordinary way in wild woodland planting provides herself.

The writer thinks that deep ultivation may be applied to any soil. Surface cultivation is of a value difficult to determine, but close observation will show this year that where thorough cultivation has been carried out the plants have not suffered unduly; while in the cases where cultivation has been entirely neglected many plants have actually died, and in any case have suffered to such an extent that it will be many months before they are sufficiently recovered to present such an appearance as is desirable in gardens.

Wherever possible, and perhaps this year there are not many places so favoured, copious watering has had a marvellous effect. In order to be effective watering must be carried out on a large scale, and a sprinkling of water administered from time to time in a casual way is likely to be detrimental rather than of advantage.

It is interesting to note that certain hybrids have carried through this droughty season to much better advantage than others, and it is a point thoroughly worth noting. For example, the very old Rhododendron Mrs. John Waterer seems to be as happy this year as if the season were normal. It has made an excellent growth and has set flower buds for next season's flowering and is carrying a healthy, well coloured foliage, where side by side other varieties show signs of suffering from the droughty conditions.

Pink Pearl has made a wonderful growth, except in positions which are obviously unsuited or where cultivation has been neglected.

Mrs. T. Agnew is, again, a notable plant in regard to its foliage and growth, and is perhaps one of the most thrifty of the hardy hybrid Rhododendrons. The writer has noticed that it will thrive and do well where other hybrids are practically useless.

The old and trusted Cynthia is another Rhododendron which has come through these difficult conditions in a triumphant way, making a splendid growth and fine foliage.

Generally speaking, their conditions are really as they ought to be; they have done well. As good conditions are not present in every garden where it is desirable to use Rhododendrons and kindred subjects, it is well worth observing the varieties which are most suited and most likely to succeed in the less favourable positions and soils.

With those enumerated above it would be well to include Mme. Carvalho, Alice, Corona, Bagshot Ruby and Mrs. E. C. Stirling. The latter, although suffering considerably while in flower during the hot weather which was experienced, has made splendid growth and looks extraordinarily well.

Generally speaking, from observations which the writer has made, some of the Aucklandii strain of hardy hybrids appear to have withstood the drought as well as any, and better still some of the old Ponticum hybrids, instances of which have already been mentioned above.

With regard to treatment after the drought, this is a question which will arise and which will be difficult to answer. Almost every case will require special diagnosis and treatment. In some cases where plants are actually dead it is easy of solution, but where there is partial vitality it is not so simple.

Plants may be cut back with a view to obtaining fresh growth from the bottom next year, but where so treated it will be three years before there is any flower.

It will be well if you recollect that drought is the reason for all this suffering, and plants will not take up wet so easily as they give it off. An immense quantity of rain will be required thoroughly to soak through the ball of a Rhododendron 5ft. or 6ft. in height.

The writer thinks that it might be advisable in many cases to lift such plants and put them in a pond or stream where they can absorb a full modicum of moisture and can then be replanted. There will be little check in so doing, and, again, one will be certain the plants will not hesitate to start into fresh growth at the proper time. Perhaps it is not possible to carry out this treatment on a very large scale, but it is certainly worth while in the case of small quantities. Where larger numbers are involved some special means of ensuring a thorough soaking of the roots should be adopted.

After the summer of 1911, when great heat was experienced and a long period of drought also supervened, the writer saw plants lifted in the following spring from which the dust shook out at the bottom of the ball, notwithstanding that the winter had provided a copious rainfall.

These remarks may be applied to any sections of Rhododendrons and Azaleas and kindred plants, and undoubtedly apply equally to other plantings, particularly in regard to initial preparation of soil and proper cultivation. Afterwards, one of the maxims of any gardener should be "Hoe, hoe, hoe," and if he has commenced his planting operations properly, this will enable him to face such experiences as this summer with equanimity.

F. Gomer Waterer.

RHODODENDRONS MASSED INTO TURF.

THE POSSIBILITIES OF THE WALNUT

There are varieties of Walnut which bear early and do not grow to a size which unfits them for the average garden.

So far as the average garden is concerned the Walnut is sadly neglected. While there are, of course, many gardens with one or more Walnut trees, there are thousands of gardens which could easily accommodate this useful subject, in which none is grown. There is a reason for this—the Walnut tree is usually of great size and takes up space which would be sheer loss viewed from other standpoints.

This refers to the Common Walnut (Juglans regia); but while this variety can be kept well in hand by judicious pruning and thinning, it need not be employed upon small areas, for there are varieties that not only keep to dwarf dimensions naturally, but actually bear profusely while very young. This is the style of Walnut that should be grown in the ordinary garden or small orchard.

The best of these sorts is the Dwarf Prolific. This tree, unless allowed to run to wood, keeps to a low stature, commences to fruit while in a very young state, and produces nuts of excellent keeping quality if of moderate size.

Two other varieties—the Highflier and Thin-Shelled—are not so dwarf, but keep to a moderate size and are very prolific. Both of them produce thin-shelled Walnuts of good keeping quality and moderate size.

There is another variety of Walnut (Juglans regia maxima) that would probably attract on account of its huge nuts, which are twice the size of the other kinds; but alas! like many another large-sized subject, they prove themselves frauds when put to practical use, for the kernels shrivel if the nuts are kept for any length of time.

It will be seen that, however desirable the larger-growing Walnuts may be in the large space, where their presence is an ornamental asset, or from a timber-producing standpoint, the only ones suited to the average garden are those of a dwarf nature, and that these actually exist.

The Walnut tree is decidedly ornamental, both in appearance and style of growth. It requires a good soil to bring it to perfection and to induce good fruiting. This soil exists in many a garden where, owing to overshadowing or awkward formation it is not available for low-growing plants, and so is wasted. The Walnut, once planted, would rise well above the ground, and would flourish, while a subject of lower stature would fail.

There need be no question of ripening the fruits—they are useful at all stages almost; there are few or no insect or disease troubles that would seriously handicap culture or the production and gathering of the fruits.

H. A. Day.

FORTHCOMING EVENTS.

October 17.—National Chrysanthemum Society's Floral Committee Meeting, to be held at the R.H.S. Hall, Westminster, at 3.15 p.m.

October 18.—Royal Horticultural Society's Fortnightly Meeting. Lecture at 3 p.m. by Mr. N. H. Grubb on "Some Aspects of Apple Pruning."

THE BORDER CARNATION

The Border Carnation should, especially in these days when the Perpetual "Tree" Carnation is so popular under glass, be, as its name implies, a hardy plant for garden decoration.

THERE is, unfortunately, a tendency to-day in the horticultural press still to praise varieties of the Border Carnation solely on their merits for exhibition purposes; in other words, as "fanciers'" flowers. A great many of the regular writers on gardening matters must either belong to the fast-dying race of flower fanciers or florists, or else they are, perhaps insensibly, guided by tradition.

I shall submit that to the great bulk of garden lovers to-day the Carnation is a beautiful, free-flowering and hardy border plant, or it conveys nothing of practical interest. They find no joy at all in selecting from rows and rows of first year plants, possibly under glass, a few blossoms with petals arranged with marvellous exactitude which they can take to a flower show or display to their friends. The flower fancier is a *rara avis* compared with his superabundance forty years ago; where he does exist he seems, in the main, to have transferred his affections to Auriculas or show Pansies.

The average grower who wants Carnations under glass will turn to the Perpetual section which, though capable of great improvement as regards habit of growth, can be obtained in flower when such flowers are most desired. For planting outside, he wants varieties sufficiently hardy to withstand an English winter; sufficiently stiff and sturdy to carry their own blossoms without the intervention of unsightly stakes; not so heavy in bloom that a shower of rain would spoil, nor so weak in calyx and overcrowded in petal that the calyses split.

It is my contention, and I speak as an amateur, without interest or bias, that Mr. James Douglas of Great Bookham, and Mr. Douglas' father before him, have done more to make the so-called Border Carnation a truly border or garden flower than everyone else combined. They have done more than that—they have introduced a delightful race of clove-scented varieties of excellent habit and hardihood, for which the gardening world in general owes to them a big debt of gratitude. Habit and difficulty of culture were at one time matters of such small moment to the Carnation grower that the Carnation, except, perhaps, for the old Crimson Clove and Raby Castle, was looked upon as useless to the seeker of pictorial effect in the garden and beautiful cut flower for the house.

This view of the Border Carnation as a freak flower still persists in the minds of many gardeners, amateur and professional, and if these few notes, should they meet your approval, Mr. Editor, serve to open the eyes of such to the present worth and greater possibilities of this flower for garden decoration, they will not have been written in vain.

The following list does not pretend to be complete or up-to-date, but it should serve as a guide to those wishing to start with a selection of varieties which have the desirable qualities mentioned, though Carnations, like every other flower, have idiosyncrasies peculiar to the several varieties, and much, therefore, depends on soil and situation.

Of the new race of "Cloves," the first, Bookham Clove, is still one of the best. Blush Clove is a large blush flower and powerfully scented, but its colour is too nondescript for my taste. The soft flesh pink Apple Blossom Clove is better, while the pure white Crystal Clove and the deepest maroon, Maroon Clove, will appeal to everyone. Pearl Clove with lilac rose flowers, and Purple Clove with blossoms of blue-purple colouring are all good doers and the dwarf deep crimson Surrey Clove is deservedly popular as a garden plant. The Salmon and Scarlet Cloves describe themselves. Both are excellent. There are a number of others, all desirable, but those mentioned must suffice.

Of Border Carnations for the border and not clove-scented, it is difficult to make a selection, there are now so many good ones, but of yellows Maréchal Niel and Border Yellow are first rate; in red shades, the deep red Fujiyama and the scarlet Grenadier are noteworthy. White Fox and Prairie Belle are two excellent whites. In pink, the Coral Pink Belladonna, the bright rose Rosetta and the splendid new Bookham Rose are glorious. Bookham Salmon, too, is a beautiful variety. In heliotrope, nothing approaches The Grey Douglas The beautiful orange Melanie associates well with the wine-crimson of Gordon Douglas or the deep maroon of Hercules.

The Perpetual-flowering Carnation is now being recommended for use as a border plant. For summer bedding in favoured gardens and hot summers it is ideal, but it can only lead to much unnecessary disappointment if it comes to be thought that it can, at any rate at present, in any way take the place of the hardy border flower, which, if left undisturbed in good soil until the third year throws many scores of blooms per plant. T. H.

THE JAPANESE MAPLES

THERE is a great deal of unnecessary mystery attached to the cultivation of the Japanese Maples. The facts are that in the South and Midlands of England these beautiful trees will succeed in any situation not too draughty, where they are provided with suitable soil. They like a cool root-run in soil not too heavy and containing a fair amount of humus. On sandy or gravelly loams this is readily provided by incorporating a fair amount of well rotted stable or other organic manure—that from a spent hot-bed is admirable—and leaf mould. These are probably preferable to peat, though that can be used if nothing better is obtainable. Where the soil is distinctly on the heavy side, a bed 1ft. deep of suitable compost will be amply sufficient, as these trees do not [illegible] deeply nor far afield.

A FINE SPECIMEN OF ACER PALMATUM.

Young trees may be grouped fairly thickly together and the soil beneath be given a mulch in spring. They will, fortunately, move quite readily when this becomes necessary; indeed, trees 8ft. to 10ft. high, which have never been transplanted, will remove with a very moderate ball and with little or no check to growth. It is better to carry out the removal as soon as, or even a little before, the fall of the leaf. Acer japonicum attains the stature of a good sized tree and takes on brilliant scarlet hues in autumn. Its two most noteworthy varieties are filiciformis and aureum, the latter, which is slower growing than the typical plant, provides with its soft golden colouring a pleasing foil for the purple, bronze, and green forms of Acer palmatum, to which species most of the quaint Japanese varieties should be accredited.

The typical A palmatum bears five-lobed leaves, but there are well known varieties with seven-lobed leaves (septemlobum), and with intricately cut foliage (dissectum). There is also a curious sessile leaved form (sessilifolium) which bears at first sight some resemblance to Acer Negundo. These green forms all take on brilliant autumn colour, and the typical plant is noteworthy for its red nectar-filled blossoms with their red peduncles and for the numerous red samaras which succeed them. The first mentioned form with the normal number of leaf lobes has a golden form, which has a distinct spreading habit, and there is also a form in which the leaves are margined with rose at the edges—roseo-marginatum. The variegation has, to some extent, destroyed the contour of the leaves, as is the case with the silver variegated Zonal Pelargoniums, once so much used for bedding out. On close inspection it has an unnatural, unhealthy look which makes small appeal to the writer.

Of the seven-lobed section there are many varieties, but sanguineum, with blood purple foliage, and atropurpureum of almost maroon colouring, are two of the best colour forms.

A form of septemlobum—elegans, with larger, more graceful leaves, has a purple counterpart. Very distinct are reticulatum with conspicuous green leaf veins, the foliage reticulated pale green, yellow and white, and bi-color with ruddy leaves irregularly blotched with carmine.

The typical dissectum is reproduced in bronze and purple, and there is a rose margined form which if prettier than that of the typical plant.

There are numerous other varieties more or less distinct from those mentioned.

THE AUTUMN FRUIT SHOW

ALTHOUGH the Show was arranged for the exhibition of British-grown fruit generally, it was essentially an Apple Show at Vincent Square on October 4; and the visitor from overseas—and there were at least several such—would be excused if he departs in the firm conviction that the British Isles grows superlative Apples, but has little else in the way of hardy fruit in the autumn. It is true that there were magnificent Pears, but these were mostly in the Single Dish Classes in the annexe and in the County Classes around the hall.

It is from the large collections by the principal nurserymen which practically filled the centre of the hall that the non-expert visitor would form his opinions, and, as glorious displays of the best Apples the world produces, these made one pardonably proud. But they were very largely of the one fruit. Each of the prize-winning collections did, it is true, contain a few dishes of Pears, and occasionally a few Medlars were to be seen. It was almost ironical to note that the most representative of these large trade exhibits, that by Mr. Ernest Hills, was not placed. Besides good Apples and Pears, he showed dishes of Plums, Figs, Medlars and Quinces, but by no means exhausted the possibilities. The nearest approach to a representative collection was that by Sir Charles N. Cain, whose gardener, Mr. T. Pateman, also arranged a superb non-competitive collection of fruit.

It must not be concluded from these remarks that the great trade exhibits were not worthy of praise; such is far from being the case. The minds responsible for the general plans of the exhibits and the hands which so well carried them out are deserving of high praise. Never before have such wonderfully coloured Apples been shown as those which Messrs. G. Bunyard and Co. put up in the premier class, where, although they found no competitor, it was evident they could not have been beaten. Besides the perfect form and high colour of so many varieties, a number possessed most entrancing bloom, superior to that on the average greenhouse Grapes.

Mr. R. C. Notcutt, who won the first prize in the smaller, but still extensive, class, also had admirable fruits, but from the spectacular point of view the really charming arrangement by Messrs. S. Bide and Sons compelled unstinted admiration. In this exhibit, by the way, were discovered *the* Apples of the Show—a basket of superb Houblon. Messrs. Laxton Brothers and Messrs. William Seabrook and Sons also had fascinating styles of displaying their splendid fruits.

Although on a smaller scale, the first prize exhibit of the Swanley Horticultural College in the market growers' class was one of the features of a great Show. Both the dessert and culinary Apples were as near perfection as we expect to see.

The many classes for single dishes of Apples and of Pears provided an almost bewildering selection of most desirable varieties. Where all seemed so delectable, what could the amateur who contemplated planting a modest orchard choose? The most popular dessert Apple was, of course, Cox's Orange, and this was shown by many in richly coloured fruits of just the right size and perfection of form. Of all these wonderfully good dishes the very best was by the Rev. G. H. Engleheart of Daffodil fame!

Second in favour came Allington Pippin—no fewer than twenty-seven dishes confronted the judges, and while all had a strong family likeness, their variable colouring was commented upon. The most brilliant Apples in these many classes were those of Rival, shown by Mrs. A. St. E. Helsham-Jones, Tile Barn, Newbury.

Of the large number of Pears, Doyenne du Comice, Durondeau, Emile d'Heyst, Louise Bonne of Jersey, Marie Louise, Pitmaston Duchess and Marguerite Marillat were excellent in appearance.

While not quite equal to those of former years, the exhibits of choice dessert fruits were of fascinating appearance. The chief prize was won by Lord Hillingdon, whose Muscat of Alexandria Grapes and Salwey Peaches were excellent. The Muscat Grapes were splendid throughout the Show and nearly all possessed that rich amber colour which tells of high flavour and "finish." In the class for two bunches Mrs. T. S. Hall, Cricket St. Thomas, Devonshire, had amazingly fine bunches. This best of all Grapes was also splendid in the first prize collection of six varieties in two bunches of each. Madresfield Court, Alicante and Prince of Wales were all of great excellence.

Although many new seedling Apples were submitted to the Fruit Committee, they made no award except to recommend Lord Lambourne, a new, richly coloured dessert Apple by Mr. Parsons, for the Bunyard Cup. The conditions require this variety to be shown again next year. It is a cross between James Grieve and Worcester Pearmain. Mr. Parsons also showed fruiting cordons and gathered fruits of his excellent Apple Madresfield Court, which received an award of merit a few years ago.

The Floral Committee met and gave three awards of merit to new plants and helped to select new Dahlias for trial at Wisley.

New and Rare Plants

Chrysanthemum Golden Almirante.—A very useful golden yellow variety suitable either for market cultivation or for the private garden. It is very free-flowering and somewhat shorter in the petal and more compact than the type. Award of merit to Mr. W. F. Gullick.

Crocus longiflorus venustus.—This delightful little autumn Crocus was raised by Mr. A. E. Bowles. It seems to be very free-flowering, and it has a pleasant almond-like perfume. The mauve-coloured flowers have a distinct purple feathering towards the base of the segments, and the filaments are bright orange scarlet. Award of merit to Mr. F. Herbert Chapman.

Oxalis Bowiei purpurata.—The chief differences between this variety and the species seem to be that it is grosser, not so free-flowering and the rosy flowers lack the golden colour which is present at the base in the type. Award of merit to Mr. S. Morris.

Carnation Eileen Low.—This new Perpetual-flowering Carnation might almost be described as being an improved and brighter coloured Lady Northcliffe, and this means that it is a valuable variety. Like those of Lady Northcliffe, the blooms keep fresh for a long time when cut and they are delightfully scented. Shown by Messrs. Stuart Low and Co.

Carnation Sir Edward Mackay Edgar.—The chief fault connected with this handsome Perpetual-flowering Carnation is the unfortunate length of its name, but time and usage will shorten it. It is a very fragrant (almost Clove scented) rich velvety crimson flower of great merit. Shown by Messrs. Stuart Low and Co.

The following Dahlias were selected by the joint committee for trial at Wisley:

Kent Star.—A very pretty little bloom of soft rosy carmine colouring which is lighter at the tips of the petals. Shown by Messrs. J. Cheal and Sons.

Varuna.—A medium sized Decorative bloom of bright rosy mauve colour. This and all the following were shown by Messrs. J. Burrell and Son.

Connie.—A somewhat floppy miniature Pæony-flowered variety of bright rosy mauve colour, which is contrasted by a pale golden zone.

Fanny.—A miniature Pæony-flowered bloom that is almost a Star Dahlia. A soft crimson blotch at the base of each floret gives a zone-like appearance and enhances the rosy mauve. Towards the base there are dull orange-coloured rays of colour.

Picture.—Another quite artistic miniature Pæony-flowered Dahlia. The general colour is rosy mauve, and this is suffused with orange-buff, except at the tips; while the base of the florets have a definite crimson-lake blotch.

Lillah.—An uncommon lilac-rose, white-tipped miniature Pæony-flowered variety.

CORRESPONDENCE

BELLADONNA LILIES AND MEADOW SAFFRONS.

NEVER before have I known Belladonna Lilies to flower so freely in the Southern Counties as they have done and are doing this autumn, though why the hot summer should affect this

MEADOW SAFFRONS IN GRASS.

year's and not next year's flowering is not at all clear to the writer. Surely with most bulbs the inflorescence is formed in the year preceding its development. Here, the Belladonna Lilies are grown against a low stone wall surrounding a lawn, and the colour effect viewed from the windows is most pleasing. The Belladonna Lilies are grown with beautiful Meadow Saffrons and Autumn Crocuses, and the variety most conspicuous is the somewhat rare Colchicum speciosum album—a very choice plant indeed, yielding pure white cups of exquisite shape. The flowers are unaccompanied by leaves, the blossoms appearing after the foliage has died down for the season. The Autumn Crocuses and Colchicums are popularly known as Naked Ladies. These autumn-flowering bulbs are recommended for planting in grass, where the flowers are seen to best advantage.—Herbert Cowley, *Tunbridge Wells.*

THE BELLADONNA LILY.

WITH regard to the cultivation of the Belladonna Lily I can corroborate Mr. Molyneux's remarks as regards this Lily in the Southern Counties, for at Lydney Park, Gloucestershire, there is a row of them—planted in a narrow border in front of a range of hot-houses—which, to my knowledge, has been planted forty-eight years, I believe, without being disturbed; top-dressed only. The row is about 20yds. long, and flowers remarkably well. Mr. Miles, the head-gardener, told me that the largest number of flowers he has cut from it in one season was 790. I should think this was a record.—F. W. Harris.

OBSERVING the interest taken by readers of The Garden in the beautiful Belladonna Lily, I have been tempted to write about ours. Growing in the front of a large greenhouse, 60ft. long, I counted 346 spikes, which, as the photograph shows, presented a magnificent sight. Of late years these have been more or less a failure, owing to dampness; but this year, having had a thorough baking, they have responded splendidly. The bulbs have not been disturbed for the last twenty years, at least. Other borders, although smaller, have done equally as well.—Frederick Dench.

[The photograph showed a wonderful row of these "Lilies," but, unfortunately, it was unsuitable for reproduction.—Ed.]

A NATIONAL DAFFODIL SOCIETY?

I READ with interest the letter signed "Ornatus" in your issue of October 1, suggesting that the Midland Daffodil Society should assume the name of the National Daffodil Society; and, as his correspondent says, "with the approval and support of the other existent societies." This is an important point: if the Midland merely changed its name no advantage would be gained, but if the other societies were affiliated to it and worked in with it, having representation on its Committee, much could be done. Could not someone who is in touch with the majority of growers of the Daffodil, both amateur and trade, get a meeting convened of all who are interested in the matter, to attend which meeting all existing Daffodil societies could be asked to nominate some of their members. The whole thing could then be thrashed out. One would like to hear what growers of the Daffodil such as Mr. Williams, Dr. Lower, Mr. Cranfield, and Rev. J. Jacob, among others, think of the proposal, which has been in the air for some time. If the Rose, Sweet Pea, Gladiolus, Auricula, Dahlia and other popular flowers have a National Society, why should not the Daffodil be added to the list! In conclusion, I may say that I have heard a good many wails and some growls not only from people in this country, but also from the Antipodes, on account of the cessation of the publication of the R.H.S. Year Book: it would be one of the duties of a National Society to fill this want by producing some sort of annual. The chief reasons for suggesting that the Midland Society should take on the new designation is that it is the most important Daffodil Society in the kingdom, that it is in good running order and that it could, probably, more easily take up the functions of a National Society than any other body; but it would have to be done with the support and concurrence of its sister societies.—Brodie of Brodie.

TYPES OF VARIETIES OF APPLES AND THEIR STATUS ON THE EXHIBITION TABLE.

THERE are two or more types of Blenheim Orange, recognised and fixed. So also there are of Bramley Seedling, the green and the red. James Grieve can now claim to have three types, one of these a highly coloured handsome fruit, being shown before the R.H.S. Fruit Committee on September 20. The distinction in each case seems to be confined to the outer appearance of the fruit, colour more especially, the quality of flesh and flavour in each being practically the same. The question was asked by a member whether the difference was so marked and important as to render any of the types being considered as distinct varieties, qualifying the same to be exhibited in collections as distinct from the original. The sense of the Committee was taken on the question and the answer was decisively in the negative.—Practical.

THE BELLADONNA IN CHARMING COMPANY
The Colchicum is the somewhat uncommon [illegible]

NARCISSUS EELWORM: A WARNING.

"ORNATUS" writes on page 495: "The scourge of eelworm has been scotched." Thanks to the careful work Mr. Ramsbottom carried out for the R.H.S. in their laboratory at Wisley this is partly true. We know that an eelworm is the cause of the chief disease of Narcissi; we know how it gets into the plant and how it spreads; we know how to kill the eelworms without damaging the bulbs, and so we know how to ensure that Narcissus bulbs are free from infection; we know, with a fair degree of certainty, what other plants are liable to attack by the same eelworm. All this was discovered at Wisley. But we do not know yet how to rid any considerable area of soil outdoors of the eelworm. No method so far tried has been more than partially successful. It is therefore very unwise to plant bulbs on infected soil. We know no method of rendering them immune.—FRED J. CHITTENDEN.

A GOOD YIELD OF POTATOES.

IT is surprising to many people the weight of Potatoes that can be grown with good cultivation from 1lb. weight of seed, and in a Potato-growing competition held by the Beeston (Notts) Garden Holders' Association this last season the following weights carried off the prizes. First prize, 104lb. 2½ ozs. from seven sets, averaging 14lb. 14 ozs. per root; second prize, 82lb. from seven sets; third prize, 80lb. 12 ozs. from six sets. The variety was K. of K., which is an "immune" coloured kidney maincrop, reminding one of the old favouriite, King Edward VII., and should prove a valuable acquisition to the maincrop varieties, as it is of good flavour and cooking qualities. Experts seem to think that this variety will supersede King Edward VII. Unfortunately, there were a few rogues, which shows it is not yet quite fixed to type, in which particular also it resembles King Edward VII, which was similarly uncertain in its early stages. The seed used in the competition was obtained from Scottish sources, which clearly shows the value of the northern-grown seed as compared with our own-grown seed. These competitions bring out all the best efforts the growers can make, and horticulture generally is much the better for friendly rivalry, and also the local interest is greater in the associations.—RUFFORD.

THE HARDINESS AND DURATION OF TOBACCO PLANTS.

THE Nicotianas are described as half-hardy annuals in every book at my disposal, including Mr. Robinson's "English Flower Garden" and Mrs. Earle's little handbook called "Gardening for the Ignorant." Now Nicotiana affinis grows at the foot of the south and east walls of this house and has flowered and scented the summer evenings every year for the nineteen years we have lived here. I believe it was here when we came. It has never been renewed, and has a precarious existence in an 18in. border which, besides containing the large climbers (Wistaria, Virginian Creeper, Vine, etc.) which cover the house, is also replanted twice yearly with Wallflowers for spring and Geraniums for summer flowering. The Tobacco Plants just take their chance, and I am under the impression that they are perennials, and not very tender ones at that. Of course, they have a very warm position, and also a dry one, which, perhaps, saves them, but they survived even what we refer to as the great frost, which happened, I think, in January, 1917. In this frost all doubtfully hardy plants and shrubs were killed, and the pond in the garden was frozen nearly to the bottom, so that the majority of the fish, including rudd, eels, and carp, were destroyed. Some of the coloured Nicotianas which were introduced into the same border soon died out and were not regretted, the old white variety is much the more attractive. When staying in the South of Ireland in the summer of 1918 I saw in more than one garden a taller Tobacco Plant, which I believe to be N. sylvestris. It has larger leaves and slightly smaller and slenderer flowers than N. affinis, and also they do not close in the daytime. Some kind friends gave me seed of this variety, which was taken off a plant growing in a conservatory. When I came home I sowed it broadcast at the foot of a south wall (garden—not a house wall). It came up the following year (1919) but has not flowered till this summer, when a fine spike has been produced, though only about 4ft. high (it was at least 5ft. in Ireland). Surely this also is a perennial. It is just possible that all these plants have been annually self-sown, or produced from seed dormant in the ground, but under these circumstances they would hardly have persisted so long.—R. B., *Cottingham.*

[The hardihood of Nicotiana affinis is undoubtedly understated in books of reference. As self-sown it appears to be of biennial duration outdoors, flowering the second year, and occasionally persisting the following winter if mild. Seeds will germinate after lying in the earth for years.—ED.]

THE NATIONAL ROSE SOCIETY.

THIS wonderful Society is making a marvellous recovery after the war. Between January 1 and September 22, 1921, no fewer than 950 rosarians joined up. There are now in round numbers 7,000 members. It takes something to feed them all (with literature). The printer's bill for 1921 is well in the teens of hundreds of pounds. It rather staggered me when I heard the President announce it at the last Council Meeting. I think it surprised others, too, from the questions asked. Some got a bit "panicky" and offered various suggestions for economising. The President heard them all, and then, in his simple, quiet way, said, "All is well." And, as he spoke, the head of our splendid Secretary moved backwards and forwards, as much as to say, "True, O President." I often say to myself where would I be but for the Pruning Book, the List of Varieties Book and the Rose Annual? I would be where Moses was when the candle went out. The two first named booklets are an immense help for all of us small fry who grow Roses. Send half a guinea to Mr. Courtney Page, 25, Victoria Street, S.W.1, and join up, so that you may become possessors of them. It is very nearly like giving you half-a-crown for a two-shilling piece.—JOSEPH JACOB.

THE ROCK PLANT HOUSE AT EDINBURGH BOTANIC GARDENS.

BEING in Edinburgh in the second week in September in connexion with the visit of the British Association to that city, I renewed my acquaintance with the invaluable rock garden included in the beautiful Royal Botanic Gardens. It seems to have been considerably altered, extended and improved since I saw it last, in 1914. No visitor to Scotland interested in rock plants should fail to pay it a visit, as something of interest is certain to be seen, whatever time of year it may be. Since 1914 a Rock Plant House has been added, of considerable size, which is extremely interesting in its layout and arrangement; the portion of the house set apart for this purpose runs practically east and west with a small set off to the north. It has a wide central pathway; at either side of the path it is terraced up to a height of about 4ft. above the path level, the terrace being formed with local red sandstone split roughly into about 4in. widths and placed parallel with the footpath at the different heights as requisite, filled in between, in varying widths, with soil most suitable to the different plants included in a large and varied collection. Wide door-openings at the east and west end of the central pathway, and the whole of the side lights likewise, are, I understand, continuously open. This ensures a plentiful supply of fresh air and keeps the temperature pretty much the same as the prevailing temperature outside, with the result that the plants inside come into flower but very little earlier than outside. Water is conveyed to the plants by an underground arrangement of perforated pipes. Under this treatment plants such as Onosmas, Mesembryanthemums, Omphalodes Lucilliæ, the beautiful Verbena chamædryoides, etc., protected from the damp atmosphere and direct frost, flourish uninterruptedly—not as, unfortunately, in the garden, where exceptionally trying winter conditions result in the disfigurement or entire loss of many of the sun-loving plants. It also allows the early Saxifrages, Crocus species, Anemones, Androsaces, Alpine Auriculas, Primulas, etc., which frequently suffer from damp and frost in our uncertain spring, to be seen and enjoyed to the greatest advantage. This arrangement of rock plants under glass protection indicates how one could enjoy to the full many difficult species, ensuring also interesting flowers under the best conditions in the uncertain weather and shorter days of the winter months. At the same time it provides a ready means of saving entire loss of rare and interesting species owing to the vagaries of the weather outside. This arrangement is a decided improvement on the potted plant system that has been in vogue to some extent in recent years, and it is possible that we shall see considerable developments in this line in the future; especially as no heating apparatus is required.—T. ASHTON LOFTHOUSE.

THE COMMON NASTURTIUM FOR TABLE DECORATION.

I HAVE come to the conclusion, after long practice in arranging vases, that there is no flower to equal the Nasturtium for this purpose. Taking the year round, Tulips and Anemones (of the St. Brigid type) are, perhaps, as valuable but all one's best beloved flowers have their drawbacks. Roses fade so soon; Lilies are impossible by reason of their strong scent; Violets do not light up well; Daffodils, Sweet Peas and Mignonette make the water they stand in clouded and objectionable, but Nasturtiums are ideal in every respect. Their colours are so clear and cheerful, their own leaves, especially the dark ones so suitable, their clean, pungent smell so refreshing and the water they are arranged in stays fresh as long as the flowers themselves. Vases filled with Nasturtiums may be left alone and trusted to look really nice for three or four days.—R.

BEAUTIFUL SEED VESSELS FOR WINTER DECORATION.

I LIKE to make a collection of these in a large vase every autumn. Many are wonderfully interesting and beautiful in form, surpassing in delicacy of line the flowers which preceded them. The range of colour, too, is surprising, but this depends much on the time of gathering. A dry day, when the seeds are ripe and beginning to fall, is the time to choose. If they are cut sooner the stems are too sappy, they mildew and the colours fade, while the seed vessels left on the plant after the seed is scattered soon begin to look dingy and dull. I arrange them in the vase from day to day as they are ready; there is no need to dry them first. All leaves and any withered flowers must be carefully removed as soon as the stems are cut. My collection varies from year to year. Tall stems of Teasel are usually the

foundation, then, perhaps, branches of Datura and Shoo-fly. The Yellow Flag is always useful; its seeding stems look and last well. Another year I hope to have some of the more showy seed of the Gladwyn. The seed vessels of various kinds of Lilies are used, with tall garden Irises and Poppies of all sorts. The old-fashioned Honesty is not forgotten, nor the Winter Cherry, Physalis Alkekengi, which I like better than the larger P. Francheti. The Eryngiums keep a little blue about their stems when dried, but the actual seed heads are not very satisfactory and soon shrivel. Another coloured stem is that of the old crimson herbaceous Pæony, which will often keep quite a fine colour. The seed vessels of the Nigella are very curious and effective. I hoped this dry summer would have ripened some seeds of Martynia, but the plants met with misfortune while I was away from home. One or two pieces of Water Plantain look well in the bunch. It is better not to mix grasses with this collection. I sometimes add a few pieces of thoroughly ripened Chilies.—Ruth Bickersteth.

TWO LITTLE-KNOWN PERENNIAL PEAS.

"North Wales" did well to point out (The Garden, page 430) the usefulness of the beautiful Lathyrus tuberosus, whose bright rosy flowers are so rarely seen in gardens. It is much more attractive than L. niger, which one does sometimes see cultivated, and more elegant than the old-fashioned L. latifolius of cottage gardens. In 1859 the Tuberous Pea was observed in cornfields near Ongar, in Essex, by Octavius Corder, and was first recorded as a British plant in the Journal of the Linnean Society in 1861. I believe it has not yet occurred in other counties. In France it is frequent among crops and on sunny hillsides, and the tubers are collected by children and cooked for food. I never saw it looking more beautiful than in a field of Corn close to La Grave in Dauphiné at an elevation of just over 5,000ft. The pure rose of its blossoms vied in beauty with the ice and snows of the gigantic Meije across the narrow valley. A still more beautiful and less known Pea is L. canescens *G. and G.* = L. filiformis *Gay*. It is a more compact plant of about a foot in height. There are two or sometimes three pairs of linear-lanceolate leaflets and no tendrils. The long peduncles bear five to ten large deep mauve or lilac-purple flowers (often with white keel), which turn blue on drying. It is rather a scarce plant in woods and grassy places in the lower mountains of Southern France and the Italian Maritime Alps, but it extends far through Southern Europe to the Caucasus.—H. Stuart Thompson.

THE FLOWERING RUSH.

In my note on this plant on page 484 the word "not" was omitted. Though "widely spread from Cornwall to Durham," it is *not* "met with in every county."—H. S. T.

AN APPLE FREAK.

I am sending you a photograph illustrating two freaks of Nature. One shows four Apples on one stem; the other three Apples on one stem, both gathered from the same tree. Each Apple is perfectly formed, but there is only one stem to each set of fruit. Perhaps it will be interesting enough to publish in your paper.—W. H. Becks.

[The photographs did not, unfortunately, show distinctly the arrangement of the fruits, but an enquiry elicited from Mr. Becks that the fruits were sessile on a thickened stalk which had evidently been terminated in a malformed blossom. —Ed.]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Stock Plants of Fuchsias, Heliotropes, Geraniums, etc., should be lifted and potted at once, as it is unsafe to leave them longer in their summer quarters. Agapanthus, too, should be removed to a cold house, and Hydrangeas in tubs also can be removed either to a cold house, or failing sufficient room, a frost-proof barn or shed will do for the winter months. Such frost-proof structures will also be suitable to accommodate large tubs of lemon-scented Verbena (Aloysis citriodora).

Anchusa italica.—The thong-like roots of this plant afford a ready means of increase at this season. Sever them from the parent plants with a knife and after cutting into short lengths, dibble the pieces into light sandy soil in boxes and place in a cold frame, where suitable plants will be made for spring planting. The Dropmore variety is still one of the best for general purposes.

The Kitchen Garden.

Vacant Ground.—As plots of ground get cleared of their summer crops, preparations should be made for the digging or trenching, as decided upon. An effort should be made to trench a portion of the main cropping plots each season, more particularly where the ground is heavy or badly drained, to prevent souring of the soil.

Endive.—Continue the planting of this salad as plants become fit and requirements demand. Those plants sufficiently advanced for blanching may have inverted pots of sufficient size placed over them for the purpose.

The Hardy Fruit Garden.

Currants and Gooseberries.—Where it is intended to make fresh plantations, the preparation of the ground should be completed as early as possible by thoroughly digging to a depth of 2ft. As such bushes are generally planted with a view of lasting a number of years, while digging is being carried out, the soil, if of a poor quality, should have some well rotted manure worked in and a liberal amount of burnt refuse. On land of good quality manure need not be added, but can be given, as necessary, later, as annual top-dressings. In each case it is not advisable to let anything of a stimulating nature come directly in contact with the roots of the bushes while planting is being done. In allotting sites for the bushes it is advisable to give the warmest and best drained position to the Red Currants and dessert Gooseberries and allow the coolest and most retentive soil for Black Currants. In making a selection of Gooseberry bushes, some cordon-trained specimens should be included if possible, for they give excellent returns and are, moreover, of easy culture and protection can be easily given to them when carrying fruit.

Grease Banding.—If not already taken in hand this work should now be given attention without further delay. More particularly is it advisable to get the bands in position in good time where the moth has formerly been found troublesome. Several reliable banding preparations are advertised in The Garden.

Plants Under Glass.

The Flowering House.—This structure, before being stocked with winter-flowering plants should be thoroughly cleansed, afterwards the glass should be cleaned, outside as well, removing at the same time all shading preparations which were necessary during the summer months. Avoid using fireheat unless absolutely necessary in dispelling dampness and excessive cold. An even, buoyant atmosphere is the surest way of maintaining flowering plants in good condition for any length of time. While endeavouring always to allow a circulation of air, it is best at all times to shut out fog, the greatest enemy of the flowering house.

Humea elegans.—The young plants grown from seed sown as advised in an earlier issue must be potted on as they become fit, using a light open compost. Humeas should always be grown under cool conditions and the air be allowed to circulate around them whenever conditions are favourable. Keep the roots in an even state of moisture, as the plants are somewhat impatient of extremes

Stocks intended for winter and spring flowering should be placed in their final pots and kept as sturdy as possible. Pot with medium firmness and incorporate with the soil a portion of wood ash and a little old mortar rubble.

Fruits Under Glass.

The Early Vinery.—Most of the foliage will have fallen and the wood should be in a fit state for pruning. It has been one of the best seasons for many years for the proper ripening of all vine wood, whether under glass or in the open air. No hard and fast rule can be laid down as to methods of pruning, but for the inexperienced it is always safer to err on the side of pruning too hard than otherwise. After pruning, the vines should be most thoroughly cleansed, giving them several good scrubbings with warm water and soft soap if mealy bug has been present, finally dressing them with a recognised antidote to this pest. When all cleansing of house and vines is finished and the border left in a satisfactory condition, allow the vines to remain in as restful a state as possible until they are re-started.

H. Turner.
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Brussels Sprouts.—Early lots will now be producing sprouts of a useful size, and may be assisted in their development by clearing off the partly decayed leaves from the bottom part of the stem. Solidity and Sutton's Matchless are again our popular varieties, both sorts showing an abundance of firm sprouts.

Turnips.—With the exception of Swedes, all garden varieties of Turnips should be lifted now, as when left out much later they become coarse and more liable to split. Store in a dry shed, give a covering of straw, and they will be found to keep in good condition.

Globe Artichokes.—In districts where these die off readily during the winter it is a wise precaution to slip off a number of side growths, potting them into suitable-sized pots and standing in a cold frame for the winter. Excessive damp is even more detrimental than frost, but we find mounds of ordinary coal ashes placed round the crowns prove a suitable protection during severe winters.

Fruit Under Glass.

Grapes.—Where it is desirable to clear a vinery of any remaining bunches, these may be cut with enough wood attached to be placed in bottles and stored in an airy fruit room. Should the border be dry, give a thorough watering. Keep the ventilators open night and day.

Peaches.—The wood will be ripening nicely now, so should be closely examined and any plants showing signs of decay or otherwise damaged should be cut out without delay. Introduce well ripened growths in their place, and these will enjoy the additional light and air caused by the excision of older or otherwise superfluous growth. Trees previously marked for root pruning may now have attention.

Plants Under Glass.

Chrysanthemums.—Sharp frost may be expected at any time now, so all bush Chrysanthemums which are well set had better now be housed. Others not so far advanced should be arranged in sheltered positions with covering material readily available. When arranging indoors do not overcrowd and allow abundance of ventilation. Continue to assist with copious supplies of liquid manure varied at times with an approved fertiliser.

Winter-flowering Begonias.—A number of the most forward of the Lorraine type may now be allowed to flower, but later batches should still have their flower-buds removed. Attend to the necessary staking and tying as growth proceeds.

Poinsettias.—To obtain strong, well grown plants with extra large flower-bracts these delightful stove shrubs should at this time receive judicious feeding with soot water and well diluted liquid manure from the byre. Part of a well heated span-roofed Melon-pit from which the crop has been cleared suits them admirably, as they enjoy a full exposure to all the light and sunshine now available.

The Flower Garden.

Lobelia fulgens.—This adaptable bedding subject ought now to be lifted and boxed closely in sand. Store in a cool pit or well ventilated

frame for the winter. In districts where the soil is light and mild weather prevails it stands the winter quite well in the open border, but the severity of the winters in this district force us to lift and protect.

Cannas.—Where these are used for sub-tropical bedding they must now be lifted and stored in suitable quarters for the winter. Take note of the varieties most likely to be required for next season so that sufficient quantity may be propagated in spring.

Salvia patens.—Tubers of this attractive blue-flowered bedder should also be lifted now. Store in boxes of dry sand and place in a frost-proof shed.

Spanish Irises.—For general display in the flower border or for use as cut flowers the Spanish Irises are general favourites. Indeed, few bulbous plants give a better return for the time and money spent upon them. To ensure the best results they should be planted now. Although thriving in most soils, they enjoy a sprinkling of sand and leaf-mould where the land is heavy. Mixed collections generally yield some fine colours, but should growers prefer distinct varieties, they would do well to try Beauty (pale lavender), King of the Blues (dark blue), Excelsior (light blue), Thunderbolt (bronze, shaded purple), Blanche Superb (pure white) and Belle Chinoise (dark yellow self). They are particularly adapted for planting on the margins of shrubberies, where they may be allowed to remain for several years.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

JUDGING GARDENS AND ALLOTMENTS BY MARKS

(In answer to a correspondent.)

THE present Old Warden scale of marks is as follows: Cropping and cleanliness, 20; Potatoes, 30; Onions, 20; Winter Greens (Borecole, Broccoli, Brussels Sprouts and Savoys), 15; Peas, Scarlet Runner Beans, Cabbages (cooking), Carrots, Parsnips, Vegetable Marrows, Fruits, and Flowers, 10 each; Broad Beans, Turnips, Cauliflowers, Celery, Lettuce, Shallots, and Rhubarb, 5 each; Herbs (four kinds), 4; all other crops, 10. The prizes are given at the rate of 1d. a mark for every mark to those who aggregate 110 or more, but you can make your own minimum according to your knowledge of local conditions.

When the Old Warden competition was originally considered it was decided to include only those crops which were of conspicuous importance to the economics of cottagers' families and which were grown in every garden. Experience goes to prove that crops run in some sense in districts, and you will, most probably, find it necessary to add other kinds to those specified because they are widely grown by your members; in such event set the maximum for each in accordance with its food value.

The fundamental principles of the scheme are utility (food value) and exactitude in ascertaining the relative merits of the several areas in competition. In regard to the first point. It is incontrovertible that Potatoes, which must come once on every daily "bill of fare," are most important of garden food crops; to secure the maximum there must be early and late varieties. Onions, again, are food of a year, not of a season, and they, therefore, stand high. Winter Greens (Borecole, Broccoli, Brussels Sprouts and Savoys) are vegetable foods which are indispensable to health in winter, and a wise succession may get the maximum. Peas, Scarlet Runners and others are more restricted in their seasons of consumption and, consequently, come lower. The quantity of each kind must balance with the area of the garden. For example, four rows of a crop in one garden would secure the same number of marks as eight rows in a garden double the size, provided that the quality was identical in each instance. The correct proportion is governed at the top of the sheet. To secure 20 marks the balance of cropping must be perfect and there must be no weeds. In marking, the individual crops are taken as they are reached, the general headings, such as "Winter Greens," "Fruits," "Flowers," and "All other Crops," follow, and finally the balance of cropping is decided.

In regard to the second point. It is impossible for any judge or judges to inspect a dozen or more gardens or allotments and reach correct decisions under what may be termed the "general survey" system which used to be adopted and which prevails now in some districts. The receptive plates of the mind are not capable of taking such sharp, detailed prints of each garden that the impressions can be read clearly and unmistakably at the end of the task. In judging by marks the possibility of error is reduced almost to nothingness. The value of the crop is appraised, recorded by a figure and it is done with. When the whole of the gardens have been visited the additions are made and the totals decide the awards. Memory plays no real part in this form of judging. The competent adjudicator has the standard quality of each crop in his mind, with its figure value. He sees a bed and quickly records its value in proportion to the maximum. Until one becomes accustomed to the work the danger lies in marking too high at the outset. A fine crop is seen and the maximum is recorded. Later, the same vegetable is found in superior condition, but it cannot be given more marks because perfection has already been incorrectly accepted and a maximum must remain a maximum. The only way round the corner is to mark the first crop down, which looks bad. However, a man will "hasten slowly" when he has tumbled into two or three such holes. The system has not become popular because, perhaps, of the differential scale.

An easier method of judging by marks is to accept 6 as the maximum for all crops, and this is often done. The fault is that a fixed standard implies equality of value in the several kinds—that, for instance, Herbs are as valuable to a cottager as Potatoes, which is manifestly absurd—and encourages growers to multiply crops irrespective of their substantial value, as estimated by their utility as foods.

If there are other points on which you are not clear you must write to the Editor again.

Bracken Pegs.—Now is the time to make a supply of plant pegs out of the stems of Bracken. The Bracken hardens when dry and lasts well, and an assorted collection is very easily and quickly made. They look far better than the wire pins often used for pegging down plants, and are very useful in the rock garden when some spreading plant, perhaps in full flower, is threatening to encroach on its weaker neighbours. With the help of a few Bracken pegs one can avoid the necessity of cutting away one plant to spare another and one can also direct the trailing stems so as to cover some piece of bare ground. For the benefit of those who have not seen these pegs made, it should be explained that the frond is first cut about an inch below the first branching, then say 9ins. above to allow of a good length for driving firmly into the ground, and the two branches are then shortened to about 2ins. to form the hooks. When the first peg is completed it is easy to see how suitable the Bracken is for this purpose.

The Senna Plant (Cassia marylandica) is unfortunately not perfectly hardy and to ensure success it must be grown in a warm and sheltered spot where it will obtain plenty of sunlight and natural protection from cold cutting winds, especially in spring. It belongs to the great Pea family and bears large and handsome acacia-like leaves and racemes carrying a large number of golden pea-shaped flowers from August to October, on stems 3ft. high. Where afforded a sheltered spot, it is truly perennial and one need have no fears as to its reappearance. It makes a striking object in the garden at the present time, though one rarely comes across it. The plants love a deep loamy soil and are not difficult to transplant if this is done in spring, though established plants must not be constantly disturbed.

A Neat and Fragrant Shrub.—About the middle of February that delightful little shrub, Osmanthus Delavayi, begins to open its fragrant Bouvardia-like flowers, and by the middle of March the plant is a mass of white blooms. It is an ideal shrub for the rock garden, being rather slow in growth. This fact by no means diminishes its value, as young plants produce a wealth of blossom. It was introduced from Yunnan in 1890, seeds being sent by the Abbé Delavay. The leaves are ½in. to 1in. long, dark glossy green in colour, and the plant is evergreen. Almost any position will suit it, and it has proved hardy in, at any rate, most parts of the country. As a pot subject it is ideal, conditions under glass rendering the white flowers purer, while their fragrance is also more potent. Whenever possible, plants should be procured on their own roots in preference to those grafted on Privet. Cuttings may be inserted in sandy soil during the month of July, and a good percentage will form roots if given the assistance of a little bottom heat

The Harlequin Flowers.—Those wanting a very bright and gay little flower for pots in the cool greenhouse to bloom during May cannot do better than procure the dwarf Sparaxis. These are on the border line of hardiness and in protected situations can be grown in the open. They are, however, most reliable under quite cool conditions in pots. Bulbs should be procured without delay, for the sooner they are potted the better the result. They are sometimes offered in mixture, but more often as named varieties of S. grandiflora. The wonderful flowers are something like the Salpiglossis in form and most intensely coloured in shades of scarlet, orange, yellow, white or purple, with yellow throat, and frequently marked with black. They are produced four or five on a wiry stem and last for a considerable time. A compost of light sandy loam is suitable, planting half a dozen bulbs in a 5-in. pot. Make the soil firm and place the pots in a darkened cold frame, giving very sparing supplies of water to the roots until the foliage growth is well in evidence. Keep them in cold frames as long as this can safely be done, but remember that frost must not be allowed to reach them. When the leaves peep through the surface, the pots should be brought into the greenhouse, placed on a sunny shelf and still watered with care and restraint. After flowering is finished, continue to water as before. One sometimes hears the complaint that the bulbs do not do well in succeeding years. This is due to the treatment meted out to them. They are natives of South Africa and require slow but perfect ripening off. Gradually reduce the watering as the leaves become yellow, but do not induce premature yellowing by a premature reduction. Water until the last leaf is ripened, then stand the pots, just as they are, on a shelf close to the roof glass until September. This baking does more to mature and ripen the bulbs than anything else. When the time comes to start them again in the autumn, do not overlook the fact that the whole ball of soil is dust dry and must be moistened right through. It is impossible to do this by pouring water on the surface in the usual way and the best method is to plunge over the rims for some hours in water, then drain, place in a cold frame and resume culture as outlined above.

THE GARDEN

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NOTES OF THE WEEK

[October 22, 1921.

THE indefatigable London Correspondent of the *North Queensland Register*, who, regardless of the fact that they are never used, regularly bombards the Editor with the agricultural successes problems of North Queensland, now tells that Mangoes thrive well in that land of bliss. s, it must be confessed, causes us no surprise. he present tendencies of the Clerk of the Weather tinue we shall soon be growing Mangoes doors in this country!

The Queen of Flowers.—At a time when garden ses still are plentiful and in excellent condition it difficult to realise that the planting season is on us. It will not, in fact, be possible to lift trees until the sadly wanted rain s, but the wise man will soon be ding in his order none the less. e purpose, therefore, to devote our xt week's issue almost entirely to s most popular of garden flowers. is confidently hoped that it will ove of interest to all who grow or uld grow Roses, whether expert or ateur.

Experience Teaches.—On another ge will be found a reasoned article a very respected correspondent the importance of buying properly nsplanted shrubs and trees. Low-iced untransplanted stuff, generally vertised as "cheap," has an un-ppy knack of turning out extremely ar in the end. Besides the money rectly wasted on buying what events ll prove to be, for practical purposes, ad shrubs, there is wasted labour planting them, wasted time in tablishing the wanted plantation shrubbery, and—dare we say, orst of all?—the irritation and noyance of the whole business. ur correspondent's remarks as to equency of removal are expressly ated to be general, but it is perhaps well to point out that—whereas apanese Maples, Rhododendrons and pruce Firs, for instance, will, especi-lly if removed at the right season, enerally transplant after a consider-ble interval—Pines, especially quick-rowing varieties, such as the Austrian , of course, insignis, should be onstantly transplanted if favourable esults are to be looked for. The uick-growing true Cypresses—macro-arpa, sempervirens, arizonica, etc.—re often sold as small plants in pots f offered from the open ground are should be taken to ascertain that they have been recently transplanted—certainly within a twelvemonth. Again, the period of three years or so mentioned in the article must be taken to apply to plants of some age and size such as nurserymen like to sell and purchasers used always to buy. Nowadays there is a growing demand for less mature and more inexpensive plants. Young shrubs and trees need more frequent transplantings than older ones, so that very immature stock should certainly have been removed within two years of purchase.

Planting Time.—Unless they are to be turned out of pots, Yuccas should now be planted or transplanted at once, while the ground is still warm. Despite the phenomenal weather we have been experiencing the ever-lengthening nights and the consequent increase of unchecked radiation will soon appreciably chill the earth. It is impracticable to lift these stately plants without damaging their thong-like roots, so that it is very important to give them time to re-establish root action before winter sets in. Y. filamentosa, which is illustrated, derives its specific name from the curious cottony filaments which spring from the edges of its leaves. It is a graceful plant, which likes a fairly cool root-run with, if possible, access to water. The finest clump noticed, in a somewhat extensive experience of the plant, was growing immediately above a land drain which carried a continuous supply of water. This clump flowered every season, though it generally blossomed more freely in alternate years, and its spikes often reached a height of 8ft. or more. Neither in flower nor foliage is it, of course, comparable for sheer grandeur with gloriosa, Whipplei or even recurvifolia, but it is much better suited to the small garden, and its regular flowering makes it the most serviceable species as a garden plant.

WAXEN BELLS. A CLUMP OF YUCCA FILAMENTOSA.

Ants and Aphides.—An American scientist, Mr. S. D. Conner, of the Purdue University Agricultural Experiment Station, so we read in the Quarterly Summary of the Royal Botanic Society of London, has formulated a novel theory based, it must be confessed, on empiric results. Mr. Conner, it seems, was annoyed with the ants which, during aphis attacks on his fruit trees, profited by his misfortune. He accordingly banded his trees in summer with "Tanglefoot" To his surprise he found that not only did it keep the ants out of the trees, it appeared to keep out the aphides as well! Mr. Conner's experiments, for such they came to be, extended over two years, and he found that with the "Tanglefooted" stems no aphides appeared unless a way was left by extraneous objects touching the trees so that crawling insects could make their way up. Strangely enough, the same suggestion is brought forward by no less a person than Sir William Willcocks, the engineer, in a chapter which he contributed to Mrs Stout's little book on "Gardening in the Sub Tropics." A case would appear to have been made out for a close investigation of the exact relations subsisting between ants and [illegible]

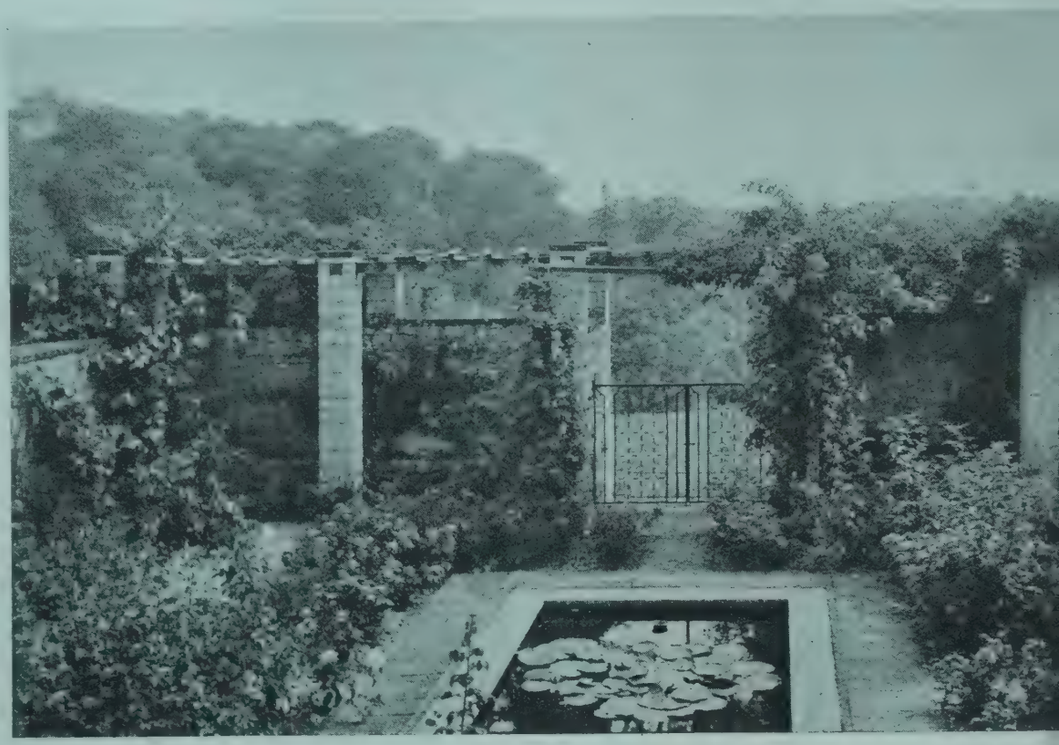
THE USE AND ARRANGEMENT OF GARDEN ORNAMENT

That garden ornament is often misapplied is a commonplace. That even in the small garden it is invaluable should be equally self evident. There follow suggestions for its use and arrangement

THE subject of garden ornament is a very wide one. So wide in fact that volumes of considerable size and copiously illustrated touch but, as it were, on the fringe of the matter. The conceivable combinations of ornamental forms, even the conceivable pleasing combinations, are so huge in number that, like possible moves on the chess board, they are inexhaustible. Let us consider for a moment the variable factors which come into play in even a small garden. We will suppose, for sake of argument, that we are proposing to include in our lay-out one new feature. A wide choice awaits us. Our feature may be a figure of some sort, a sundial, a bird-bath, a well-head, a gateway in brick or stone, with or without gates, a pergola, a seat, a summer-house or pavilion, or, it may be, a dovecote. Think then of the vast variety of designs to which any one of these can be carried out, of the alternative positions in which most of them may be placed and of the different ways in which they can severally be displayed, and it will be seen that it is unnecessary for anyone in search of a new feature, however small may be his garden, to copy from his neighbour!

After what has been said as to the size and intricacy of the subject, we shall probably be forgiven if the following hints fail to elucidate some particular problem which is vexing a reader, It is surely unnecessary to state that the Editor is at all times willing to help with any specific difficulty. A properly designed and placed summer house or pavilion is at once useful and beautiful. In the ordinary rectangular garden—familiar to all readers and the fascinating hobby of so many—such a building serves very well to close the vista at the bottom of the garden. It is hardly necessary to state that it should not be so used in a very short garden, nor that so placed it should have some pretensions to design. Even when no objection to that situation can be urged on either score, it may be wanted nearer home for convenience of taking meals therein when the weather is suitable. Again, the garden front of many houses has a southern exposure, which would give a summer-house at the "bottom" of the garden a cheerless northern look-out. A southern exposure can hardly be achieved in such a case without destroying the harmony of the whole, but a western or even south-western aspect, which is almost equally desirable, can generally be arranged for. The attached plan shows such a treatment under circumstances where the garden service path comes, unfortunately, on the wrong side of the house. Immediately in front of the house terrace is a small sunk garden, flanked on its eastern side by a pergola level with the terrace. From this flagged pergola access is obtained to the rear of a summer-house which commands a pleasant view in a south-westerly direction across a rose garden, which may be supposed to lead to further ornamental grounds or to the kitchen garden or orchard as desired. In the sunk garden a large square bed is divided into four by narrow paved paths, in the centre of which is placed a rather small lead figure on a not too tall stone pedestal. The centre of the rose garden is marked by a sundial or bird-bath of suitable proportions on a shallow step. Across the rose garden is placed a seat, which would look best in stone, but would be much less expensive and far more comfortable to sit in made of hardwood. Excellent and durable seats of this class are made by a well known firm of ship-breakers. Painted seats for such a purpose should be avoided.

Where water is desired in the garden a lily tank might be substituted in the sunk garden for the two square beds on the axial line. Such a tank should be finished off with an 18in. self-faced York

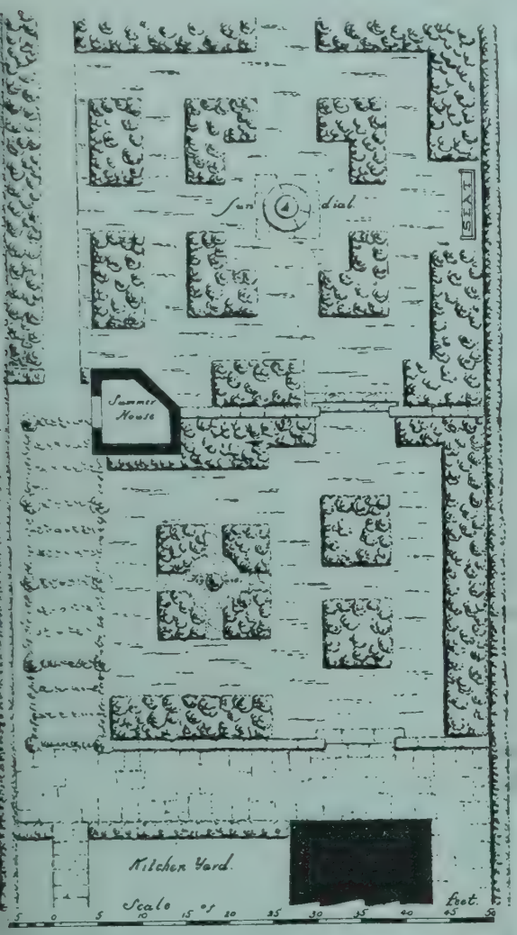


THE LILY TANK, WROUGHT-IRON GATES AND PERGOLA, THOUGH IN LITTLE COMPASS, DO NOT LOOK OVERCROWDED.

CHEAPER THAN A MARBLE SEAT, AND FINER!

Wood for comfort, stone or beauty and a Wistaria bower to complete the picture.

one coping level with the turf. It will us be seen that without in any way "over-ing it," we have disposed of a pergola, mmer-house, sundial, figure, lily tank and garden at in quite a small garden. To these might well added four vases either in lead or stone, flanking



A SATISFACTORY ARRANGEMENT OF GARDEN ORNAMENT—USING THE PHRASE IN ITS WIDEST SENSE—IN A SMALL GARDEN.

the steps at each end of the sunk garden, while the sunk garden walls might perhaps be dignified by a simple balustrading.

If so many ornamental features may be introduced into quite a small garden so as at once to be effective in themselves and helpful to the general effect, how comes it, it may well be asked, that one so often sees gardens in which the number of ornaments is smaller than here enumerated, but which none the less remind one of a monumental mason's yard? It is, of course, all a question of disposition. The writer was told but a short time ago of a would-be builder who gave instructions for the preparation of plans for his new house. The architect was making progress, indeed he was on the point of submitting designs, when his client called to tell him exact sizes for the reception rooms. Protests were useless—the client was firm. He wanted, it seemed, the rooms to fit his carpets!

Few people, probably, would build a house to fit the carpets, but it is too true that many people attempt to design their gardens to fit their ornaments. They see a particular piece for sale at below the market price or, as they miscall it "cheaply," purchase it and endeavour so to modify their garden as to "make a place" for it. The result is the distressing effect to which allusion has been made and which often results in other perhaps equally misguided people eschewing ornament altogether.

Ornaments are admittedly expensive. Moreover, it is not always possible at once to put one's hands on a particular piece for a special place. There should be no difficulty, however, in planning the garden as a whole and deciding on the ornamental features which will ultimately be desirable. These can then be added as opportunity permits.

Let us for a moment suppose that we have planned our garden in the way shown. We will make the sunk garden as drawn, finishing the walling, however, at ground level, including the retaining wall to the pergola, putting in at the same time, to avoid subsequent expense, the foundations for the pergola pillars. We have already, of course, well defined ideas as to proportions of these, bearing in mind the house architecture. The large square bed, without its figure, will have the "crazy" paths carried straight through for the present and the terrace and pergola-to-be may, if necessary, be gravelled instead of paved *pro. tem.* The wall and bed will, naturally, be carried through where on plan the summer-house is shown. Plants in pots or tubs will make the return terrace presentable. With regard to the rose garden, no space will at this stage be left for the summer-house unless, indeed, a seat, suitable ultimately for the site shown, is procurable, when it may be stood for the time being on the site of the summer-house. The border should be carried through where the seat is shown on plan until the seat can be released for its proper station. A Hydrangea or other large pot plant may be stood where the sundial is marked. Afterwards, as opportunity offers, the pergola can be constructed, then the summer-house, while figure or sundial can be installed when exactly the piece desired is procurable. Last of all, the lily tank may replace the flower beds; and now our garden planner, all his dreams come true, must either take a fresh house (or rather fresh garden), start to lay out the space reserved for kitchen garden or redesign wholly or in part the portion already treated! Unless indeed he has a friend who will be glad of his good offices and whose garden making he can supervise.

For the small garden large pieces of statuary are quite unsuitable and the pergola, though it should be absolutely substantial, should not be too weighty, otherwise it will overwhelm the garden. If of brick, 14in. piers will be suitable, while if stone be employed, it should either be dressed entirely—not necessarily sawn, however—or if built in coursed random walling the courses should be of varying thickness, but all narrow; if the widest do not exceed 4ins. so much the better. It may, of course, be carried out entirely in substantial hardwood. From 7ft. to 8ft. between centres of the piers will be a suitable width for gardens of limited size and along the pergola the piers may be from 8ft. to 10ft. between centres. In any event detailed elevations should be set up and pleasing proportions be ascertained before the spacing is decided upon.

Columnar sundials are very usual and for very restricted spaces indispensable, but one often sees them used where the effect produced is decidedly "skimpy." A design of a rather more spreading character is then called for. Sundials, bird-tables—some of these are very charming—and occasionally bird-baths may often be emphasised and rendered more effective by mounting them on a platform raised from the ground and approached by one or two shallow steps. In some situations two 7in. brick steps may even be introduced with pleasing results, but it is wise to err on the side of caution as nothing in a garden can look more horrible than the but too common "monument" effect.

The architectural treatment of the garden should, in general, seem to fade away or evaporate as the house is left further behind. Since, near the house, restrained and formal treatment is so emphatically called for, most of us would gladly treat the more distant parts less formally, so that the ultimate effect, when the planting grows up, is so artistic as to appear almost natural. Even here, however, a figure, not too ornate, at the crossing of the ways will give a finishing touch not otherwise obtainable. In the disposition of garden ornament, as in all artistic achievement, anti-climax must at all costs be avoided and a certain severity or restraint should be practised throughout. A plenitude of graceful and charmingly coloured vegetation will soften any austerity, where it would be quite

THE BEAUTY OF WROUGHT-IRON GATES.
The pair shown are old Italian

unable, unless by absolutely covering it, to hide vulgarity or ostentation. Looking down a vista, a properly arranged lily tank or ornamental water, figure, sundial or bird-bath and seat or arbour will be pleasing, where no possible arrangement which included two figures or a figure and sundial would be even tolerable.

A richness of effect otherwise unobtainable may be produced by the introduction in appropriate places of wrought-iron gates hung to brick or stone piers, with suitable caps and finials. One particular garden, and that not necessarily a specially large one, may thus, without destroying the essential unity of the whole, achieve a completeness and individuality not otherwise possible. Since one might, in the pursuit of genuine old wrought gates, search for ever unsuccessfully if one had, perforce, to buy to measure, this is one of the few cases where ornament may excusably be acquired first and fitted in afterwards.

This is, after all, no real exception, since the balance of gateways rests very largely in the flanking piers. These must, of course, harmonise with the gates, but such harmony is not, as a rule, difficult to achieve. Wrought-iron screens may, on occasion, take the place of gates, especially where a beautiful garden vista may thus be continued across neighbouring park land. For some purposes, as where a line of vista might be unnecessarily foreshortened, gateway piers without gates will be desirable. Wrought-iron gates, screens or grilles need not be old to be beautiful. Much modern work is very beautiful indeed a the manufacturers will gladly follow any practi able design, but hand labour must necessarily these days be paid for.

The large Istrian well-heads and their mode replicas are admirable for spacious grounds. F gardens of limited extent, however, their use practically confined to the forecourt, where th may often be used with great effect. Small we heads may, however, sometimes be purchas which are very suitable for quite small sunk, pav or other formal gardens. If placed on raised pla forms the rather squat, spreading effect of t "head" itself must be reproduced in the ba on which it stands, and the steps, whether one two in number, should not exceed 4ins. in heigh

A NEW RACE OF GLADIOLI

Brief descriptions of some new and choice varieties of the charming Primulinus hybrids, wit notes on their value as cut-flower and their readiness of culture from seed.

THE hybrids of Gladiolus primulinus have, during the last few years, showered such a galaxy of beauty on our gardens that they are coming into public esteem both commandingly and appealingly. And yet their possibilities for garden and home adornment are only just beginning to be appreciated. No flower surpasses this section of the Gladiolus family for beauty in room decoration. Such an infinite variety of pictures can be made with their wide range of colours and an apt use of many kinds of foliage to set them off, that one never tires of them. One of the most lovely vase decorations I have ever seen was one we tried a week or two ago—Gladiolus Alice Tiplady with a spray or two of Copper Beech foliage. A score of such suggestions leap to mind and will appeal to anyone who grows these flowers.

Someone suggested lately that the floweri season is so short that it is hardly worth devoti a choice position in the borders to these Gladio What an idea! We have been cutting spik since the middle of July—till the end of Septemb in abundance, and since then in lesser quantity- and it looks as if the supply will go on till fro makes its appearance. Nor were these spik of bloom forthcoming from planted corms alon

THE BEAUTIFUL GLADIOLUS NYDIA. THE COMBINED CHARM OF FORM AND COLOUR THE ILLUSTRATION CANNOT PORTRAY.

EQUALLY CHARMING, GLADIOLUS WOODCOTE IS WORTHY OF A VERY SPECIAL CORNER.

Many of them came, and are still coming, from seed sown in February. The Gladiolus as an annual! yet not dying like an annual, but improving and multiplying year by year. Here is a new game for garden folk. Get some good class Gladiolus seed and raise your own hybrids. Wise old gardeners will tell you you will have to wait three, four or five years for flowers, but you can laugh at their wisdom and cut your flowers six months or so after the seed is sown.

One might divide the Primulinus hybrids into three sections—the Dutch, the British and the American. There seems but little of interest in the French lot. The Dutch hybrids are mostly small flowered, but include some of the most beautiful of all. Nothing could be more entrancing

THE TALL PILLAR OF BLOOM OF DARLING.

THE MORE HEAVILY BUILT CICELY.

than Orange Brilliant or Sunrise, or more dainty than Maiden's Blush. These are moderately priced and should be planted freely for effect in the garden. Fire Queen, from the same raisers (Messrs. Grullemans), is also a first magnitude star, and I think Kitty Grullemans and Insurpassable will prove of equal merit. Last year's novelties from Messrs. Krelage all turned out well, the best to my thinking being Adonis, Daphne, Niobe and Sphinx.

The British group is small as yet, but nascent, and takes in a few of the very highest quality. Major Churcher's Woodcote, of those now on the market, is undoubtedly Britain's best. The illustration given here is not good as regards the shape of the flower, which in reality is near perfection. In colour it *reaches* perfection, a glorious soft and pure tone of coral scarlet with very pale yellow blotches. This is indeed a thing of beauty and a joy as long as it lasts in bloom. Cicely, coming from the same source and also illustrated, is a flower of heavy build but of unique colour, best described perhaps as crushed strawberry, warming to carmine on the lower petals. Messrs. Kelway's Ella Kelway, Golden Girl and Lieutenant Kelway are good, the prettiest I think being the first named.

However, as with the large-flowered Gladioli, America leads with the enormous number of extraordinary hybrids of G. Primulinus. On the whole, larger in flower than those affected by Dutch and British raisers, the colour of many of them is extremely beautiful, and a few of them have developed the ruffle, or crimping of the petal, which lends such distinction to Alton and Favourite in the large-flowered group. One of the daintiest is Nydia, a perky little thing in pink and white, like apple blossom. The illustration of this variety is good, showing well the graceful pose of the flowers on the spike. Darling, also pictured, displays a tall pillar of bloom with five or more flowers open at a time. The colour is delicate pink, and the flowers almost large enough to remove them from the Primulinus class. Alice Tiplady is a most charming variety almost self-coloured in saffron with a large well hooded flower. This ought to be sought after by everyone who wants to know how alluring these flowers can be. Another is Salmon Beauty; a third, Sonia, in brightest red; and a good fourth, Topaz, of exquisite form and refined colouring, salmon pink and buff in tone. There are, naturally, many yellows, following the parental colour, but none that I have tried, or seen, so rich as Otranto, which is a pure maize-yellow with pretty scarlet markings in the throat. It seems invidious to name a few of these lovely flowers where there are dozens of almost equal merit. Quite as fine as those already named are Altair (one of the best), Arlon, Argo, Cassandra, Elegant Beauty, Fire Fly, Linton, Midsummer Dream, Myra, Rosalia and Zenobia. The Americans make a serious business of this artistry in flowers, and they are certainly producing some wonderfully fine things.

J. L. GIBSON.

THE PERPETUAL-FLOWERING CARNATION

These plants are better propagated now than in spring when growth is apt to be attenuated and drawn up.

THE present is the best time to strike cuttings, as the growth is in better condition than in the spring, especially in cold districts, for no matter how carefully artificial heat is manipulated during the dull months of the year when the plants have to be kept growing so as to produce good blooms, the young shoots are invariably found to be more or less weak and drawn in the early spring. On the other hand, at this season the shoots are short, firm and have their leaves fully developed, through having been supplied with an abundance of light and air. The late shoots at the base of the flower-stalk make the best cuttings. They should be from 3 ins. to 4 ins. long. If they can be got at that length with a "heel," so much the better, for all that is then required is the removal of the ragged edges round the heel. Otherwise make the cutting in the ordinary way by making a clean cut below the joint and removing the lower leaves.

Insert the cuttings round the edge of 4-in. pots filled with silver sand or any porous material, provided it is free from acid. Place the pots in a propagating case with a nice warm base in a house where there is a growing temperature, say, of from 55° to 60°. Keep the rooting medium moist and the frame closed for a few days, taking care to wipe off the moisture which collects on the glass. In about a week admit a little air during the night, gradually increasing it till the light can be removed entirely at night. In the same way during the day the ventilation should be increased, so that the glass over the case can be dispensed with by the time roots are emitted, which takes place about four weeks after the cuttings have been put in.

When a small tuft of roots has formed, the cuttings should be potted into 2½-in. pots, scrupulously clean. A piece of charcoal large enough to cover the hole in the bottom of the pot is all that is required for drainage. The charcoal need not be removed from the roots when repotting, for it is an advantage to keep the small roots intact. Good material for the first potting consists of two parts loam, passed through a half-inch mesh sieve, one part fibrous peat, finely chopped, with a good sprinkling of ground oyster-shell added. Little or no artificial manure should be used at this time. Pot fairly firmly and place in a structure where the cuttings can be kept close till root action commences. Water carefully and on no account

allow the plants to get too dry before water is applied, for when the balls of young Carnations become parched the plants are practically ruined. As soon as the plants begin to take possession of the soil, air should be admitted on all favourable occasions, keeping the temperature in the house from 50° to 55° in the daytime and 45° during the night.

M. McN.

SOME FLOWERS OF THE CANADIAN ALPS

IMPRESSIONS of an alpine flora, like those of some great garden, often improve with keeping. After the lapse of time—it may be months or years—one is able to sift from the mass and focus clearly those certain features or objects which at the moment were but parts of a huge whole, but which nevertheless had become so enduringly imprinted on the memory that at the mere mention of their names in after years they re-appear sharply defined in a well balanced picture. One is able to see the trees where once had been only a wood.

At least so it appears to me when a weathered notebook recalls the moment that first I came across Linnæa borealis var. canadensis (so much finer and easier than the type) threading its way over moss-clad rock and fallen log, and brightening the silent, humid gloom of the pine forests of the Selkirks with its gay little rosy bells. And who shall measure the feelings when, after many seasons of patient care expended over a feeble patch of Dryas octopetala, the memory is jogged by those wonderful masses, veritable pastures, of this wayward thing, through which one waded on the heights of the Rockies?

Perhaps it is a pity for his peace of mind that man is apt to allow his impressions to be influenced by his own personal, and possibly puny, experiences. But, happily, it is not always so. Before I saw the Rockies, Aquilegia formosa was unknown to me, but the elegance of its habit and peculiar beauty of its scarlet and yellow blossoms when seen among the green of Ferns and other herbage of its damp and shady native woods made so strong an appeal that our wild garden has never since been without it, and an easier, better tempered plant does not exist. So, the same story might be told of Cornus canadensis. Once a poor, unhappy thing, clinging to life grudgingly in the earthy pocket of a rock garden, this bright little woodlander now enjoys life as heartily as it does in its own home, where it sheets the mossy stumps or streaks with snowy whiteness the gaping bole of some riven, but standing, tree, into whose rotten tissues it has threaded its couch-like roots.

In the woods of these high valleys Spiræa aruncus grows as abundantly as our own Meadow-sweet, and, common as it is to us, its foam panicles are associated in my notes with the finding of that treasure of the higher ledges, Rhododendron albiflorum and the woolly leaved Labrador Tea (Ledum latifolium), which always seemed to prosper best where the mosquitos' attack was most punishing to the stranger's skin. Here, too, were bold drifts of Bryanthus empetriformis and a white Cassiope, while along the boggy shores of Lake Louise I came across patches of Kalmia glauca with its large clusters of rosy red flowers.

IN THE GLOOMY SHADES OF PINE AND SPRUCE.
Mount Sir Donald and glacier.

Especially beautiful among those Canadian heights was Erythronium giganteum, softest of yellow and deliciously fragrant, a species which appears to cover an extraordinary range from the sea-level to the very lips of some mighty glacier, where the pale emerald of Lyall's Larch alone survives of the forest which swarms up the flanks of the valley. But the ground covered by this elegant little Dog Tooth is as nothing compared with that of Epilobium angustifolium, which can surely claim to be one of the most cosmopolitan of plants. For the "Fire Weed," as it is called owing to the rapidity with which it will race over the blackened wake of a forest fire perhaps a few square miles in area, if not a fighting plant, never misses an opportunity of colonisation. The result is that it will accompany the traveller over every available spot of cleared soil for 3,000 miles from Victoria to Quebec.

There are few prettier plants in the shady woods of the Rockies than Clintonia uniflora, with leaves like wild Garlic and six-pointed stars of white and yellow, one to a stem. But in still deeper shades where the Pine needles lie soft and deep, that little Pyrola, Moneses uniflora (Gray) is even more attractive by reason of the waxen whiteness of its charming little flowers poised so elegantly on stems which rise from the deep green rosette of leaves at their base. A rare companion, one would imagine, for Epigæa repens.

In patches of sunlight in these damp woods the Butterwort will be found just as it is on our own moors, but rather larger in the blossom; the fragrance of wild Mint (Mentha canadensis) will blend familiarly with the odour of mossy bogs which seem to have the same smell all the world over, and, if fortune favours, you will run across the true alpine Forget-me-not. Even bluer and still nearer the sea-green crevices which gape in the buttresses of the ice-field, Veronica alpina atones for the smallness of its blossoms by intensifying their lovely colour, and here, too, though I found it not, that tiny little red-flowered Bramble, Rubus arcticus, is said to grow.

The Foam Flower ramps luxuriantly in the forest primeval of these northern lands, its leaves assuming their peculiarly artificial look and colouring as soon as Sambucus racemosa (Red-berried Elder) is ripening its scarlet fruit. The bark of Cornus stolonifera, which the Indians are said to smoke, also gives a warm note of colour to woods which are sometimes inexpressibly gloomy owing to the predominence of the Conifers. Tellima grandiflora often shares the ground with Tiarella, and though this is a plant well worth growing for its Heuchera-like foliage, surely Linnæus must have jested when he bestowed upon it its specific title, for a feebler flower never grew.

Of the true Saxifrages, other than S. nivalis, I saw but few. S. oppositifolia padded the rocks with purple where Silene acaulis made one sigh for the unhappiness of one's puny little plant at home, and I can recollect some rock-strewn drifts of a tall, many-branched species, not identified, bearing numbers of characteristic little white, pink-speckled stars. But if the New World is weak in these gems of the older Alps she manages in a manner so creditable to fill the blanks that might be occupied by them that one does not notice their absence.

My last reference must be to that of the wonderful Castilleja (Indian Paint Brush) whose range appears to extend from the low valleys of the Pacific slope to the snow line. Whether or not this is a northerly form of the C. coccinea of Gray, familiar to us under glass, or a distinct species I cannot say, but its hardiness is so obvious that one wonders why it has not found its way into English gardens, unless its partially parasitic nature may be the explanation. At any rate, where Castilleja abounds, and it revels in sunny ledges where other vegetation is often burned brown, the vermilion and gold, orange and scarlet which flame in its gorgeous bracts create an effect not less brilliant than that of some bold squad of scarlet Geraniums, and one not usually associated with alpine flora.

A. T. JOHNSON.

THE IMPORTANCE OF TRANSPLANTING

THE great drought of 1921 has caused immense losses in many gardens, and even in old-established plantations many trees and shrubs have been unable to withstand the conditions to which they ave been subjected; while, in the case of new lantings, the losses have been excessive. In the tter case the drought alone is not responsible, and ndoubtedly one of the main reasons for 100 per ent. losses is the purchasing of trees and shrubs hich have not been properly transplanted.

It is about time the general public were educated o the fact that it is possible to purchase properly ransplanted trees and shrubs, and that they should e warned against cheap offers of similar stock. here are undoubtedly certain nurserymen who lo not transplant their shrubs with regularity, nd, indeed, plant out their stuff and cultivate t to some extent, trusting that sooner or later omeone will come along and buy it as it stands. hey are not called upon for any guarantee for eplacement, nor, through the ignorance of the ustomer, are they asked if their stock has been roperly or recently transplanted.

The innocent buyer sees a shrub full of vigour with a beautiful leader, and remains in ignorance of the fact that the longer the leader the stronger must be the root which supports it. He goes home boasting of having bought some beautiful plants at a much lower price than is advertised by leading firms, who have gone to the expense of not only transplanting, but of properly cultivating the same class of plant.

At the end of the season the purchaser is surprised to find that his beautiful leader has withered, and in many cases the whole of the shrub is dead, for no reason whatever but lack of transplanting when in the possession of the nurseryman.

The past season has proved that properly transplanted trees and shrubs will withstand exceptional conditions when the other class of plant must inevitably die.

All nurserymen have, this season, incurred losses, but where transplanting had been properly carried out at suitable intervals the number is infinitesimal compared with some examples which can be quoted. To take but one instance, 400 Yews about 4ft. in height were purchased at a comparatively low rate and were planted in conjunction with fifty other plants purchased at a higher rate and sold by a nurseryman who claimed that his trees were better in respect of their roots. At the end of August, 380 of the 400 plants were dead and twenty so disfigured that they are useless. Of the fifty which had been purchased at the higher rate forty-nine are alive, and have grown about 1in. all over. The one plant has died back about half-way, and the purchaser is anxious to know if the plant will recover if cut back. Needless to say, the purchaser is annoyed at having lost 380 costly plants, but it was not without warning that this loss was incurred. The purchaser was informed that it was probable the Yews had not been transplanted, as they were offered at such a low figure, and it was agreed that a small number at a higher rate should be planted under exactly similar conditions for the sake of experiment. This particular buyer is now fully satisfied that the Yews at the higher rate were not only a good bargain, but, compared with the others, were cheap.

There is, it would seem, nothing to prevent any nurseryman selling trees or shrubs that have never been transplanted. Surely the time has come when the public should be enlightened on these points, and it can best be done through the [illegible] of your columns

Purchasers should insist on a guarantee from nurserymen that their trees and shrubs have been transplanted within a definite period. The necessary frequency varies according to the class of plant, but in few cases is it advisable to purchase any plant that has remained in a permanent position without special attention to its roots for a longer period than three years, or four at the outside. This does not necessarily mean that a plant that has stood five years will certainly die, but that in a case of this kind it is necessary to exercise greater care in its removal than if the plant had been properly transplanted within two or three seasons, and in the case of many plants it is probable that a large percentage of such trees would certainly die, more particularly when the planting operation is undertaken at some period of the year that is not strictly favourable. The time for transplanting varies according to weather, soil and situation. The old-fashioned idea that one can only transplant Hollies in May is surely exploded by this time. The writer's experience is that Hollies transplanted in October and November do infinitely better than those planted in May, rarely losing a leaf if handled at that period. Yews move well either in autumn or spring, always provided the atmospheric conditions are favourable.

With a spring such as 1921 few plants of any kind transplanted late were able to stand the long period of drought to which they were subjected, but those that did had surely been properly transplanted while in their nursery positions.

A man who goes into a shop and buys a pair of boots does not expect the first time he wears them, to get his feet wet or to have the sole come off. If such a thing occurred he would assume at once that he had been badly treated by the man who sold him the boots. Surely a plant sold by a nurseryman without a proper root is as bad as a boot sold without a proper sole.

The remedy, after all, lies in the hands of the purchaser. Let him insist on a guarantee from the nurseryman that his plants have been regularly and frequently transplanted, and it would be well that he should ask for definite dates with regard to recent transplantings, and if he is ignorant he should, before purchasing, submit the information for advice to someone who has knowledge. The planting of ornamental trees and shrubs is, after all, a serious business and worth a little preliminary trouble.

F. G. W.

Fruits for North Walls

Some gardens have an extensive area of wall surface with a north aspect. The profitable employment of such wall space with fruit is, in such cases, a real problem, so that the following hints by an acknowledged authority should be very serviceable.

THERE are many gardens which have a north wall, but on very few of them does one find fruit trees—if we except the Morello Cherry—succeeding. This Cherry, it should be more generally known, succeeds quite well grown as a bush or half-standard in the open garden, but the fruit so grown is not so fine or good in quality as when grown against this wall.

ORNAMENT AND USE! MORELLO CHERRIES ON A NORTH WALL.

Pears have been tried time and again, with indifferent success. The variety which succeeded the best with me being Vicar of Winkfield and the old and all but forgotten variety Bishop's Thumb. The former is one of our best stewing Pears, of medium to large size. An excellent bearer, it is not at all bad for dessert when well grown and ripened. The latter is a late variety, very popular years ago, and well worth growing even now, for good late Pears are scarce. Its flesh is distinctly green in colour—more pronouncedly so than any other Pear I know—very luscious, liquid and refreshingly sweet but not [illegible]

is slightly gritty, which to many is an objection. The fruit is large and long—somewhat like one might conceive a giant's thumb to be, but why like a bishop's thumb?

Plums also have been largely tried, but with varying and generally indifferent, success. True, the Victoria and a few other free-bearing sorts have succeeded fairly well for a time, but the cold and sunless position is later reflected in their weaker growth and failure to crop. Curiously enough, there is one Plum—that among the best of our dessert Plums—which can be successfully grown in this position, namely, Golden Drop. Many years ago, at Drayton Manor, at the time I had charge of that garden, a considerable length of north wall was devoted to the growth of this superb Plum. The trees were fan-trained, and did not grow so robustly as they did when planted against a west wall. They produced, however, good crops of medium-sized, well ripened fruits, which were available for dessert from September to the end of October and sometimes even later than that.

The Sweet Cherry is another popular form which succeeds admirably when grown against a north wall. The Cherry is happier grown in such a position than the Plum, because it is hardier and has a more vigorous constitution. We grew Cherries at the Royal gardens on walls of many aspects, but on none did they succeed better than against those facing north. Those who are partial to the Cherry and wishful to prolong its season should make a point of planting trees in this position. The following six varieties are among the best, and include both early and late season varieties:

Early Rivers is among the earliest to ripen, and is one of the best and sweetest. It has the additional advantage of remaining in good condition for a considerable time when ripe.

The colour of Elton Heart is yellow, suffused with crimson and dotted over with many rosy blotches. The firm flesh has a rich and sweet flavour, and it is wonderfully productive.

Governor Wood is one of the handsomest and best. Its colour is light gold, merging in parts, when ripe, to shades of red. The large fruits are borne freely in clusters. It is an early variety.

Napoleon Bigarreau is a strong grower, free-bearing and hardy. The sweet and finely flavoured fruits are of a rich carmine colour. Its season is late.

Of a deep crimson to black colour, the Noble has large fruit of rich flavour, sweet and luscious. This is one of the most fertile, late season sorts.

Florence Heart is the latest of all to ripen. It is accordingly specially useful in extending the Cherry season. Its fruits are large and handsome, of a light yellow to pale red colour when ripe. It is exceedingly fertile.

The soil in which the trees are to be planted must be of the best if the greatest success is to be attained. Help must be given the trees, to compensate, as far as possible, for the way they will be handicapped by the absence of sunshine to warm air and soil. The only way in which we can do this is by providing effective drainage and a suitable compost. The following mixture is recommendable: To a barrowload of the best loamy soil procurable (I make this the backbone, as it were, of the compost as it is the best of all materials for encouraging a multiplicity of new roots: without an abundance of these it is useless to look for abundant crops from any trees) add a pint each of ½in. bones, bone-meal, kainit, lime and soot, also a peck of old mortar rubble in order to keep the compost sweet and porous. To this material may be added an equal part of the best of the original soil where of fair quality. Keep most of the new soil near the surface. Trench the soil 2½ft. deep, adding the new soil as trenching proceeds and throwing out the poor bottom soil at the same time to make room for the new. Let the border, when trenching is finished, be 6ins. higher than the natural surface soil. Use only as much of the new soil for the planting of the trees as will serve them, say, for three years. Four feet square should suffice. It is a waste of good material to give them more to start with. The borders can, with great advantage, be extended and enriched later on.

Plant the trees on the raised soil, their lower roots being on a level with the surface of the surrounding soil. One of the secrets of succe lies in not planting too deeply. The surface so is warmer and richer than is that below. Th encourages the growth of a large quantity healthy fibrous roots, and so adds greatly to th fertility of the trees. Press the soil firmly to th roots. Plant, if possible, as soon as the leave have fallen, and let the soil be moderately dr at planting time. Fan-trained trees are the bes for the purpose. OWEN THOMAS, V.M.H.

The Vegetable Harvest and Its Disposa

The present season has been a most extraordinary one for vegetable growing. Potatoes have started badly to grow again, and root crops, which stood week after week without appreciable development, have, now that rain has come (and where it has come), shot into growth and are producing wonderfully large-sized crops. Careful storage is, this season, of more than usual importance.

STORAGE is always an important item, but this year, with the evil of second growth to face and the dearth of the usual crops of roots in some districts, it will be of the utmost importance to see that not a pound of available food is wasted. In the case of Potatoes there is reason to anticipate that there may be a really severe shortage next spring. Prices may rise out of all proportion, and unless prompt steps are taken now, the Potato may only be visible in museums a month or so before new Potatoes begin again to come in from abroad. Many gardeners seem not to realise what second growth means, and are preparing to store the crop in the usual way, not realising that before they have been stored many months, more than half of them may be bad.

As Potatoes are by far the most important vegetable crop, they shall have first attention. Crops up here are comparatively heavy. The return was twenty-eight fold at some allotments close to the writer's house a few weeks ago—a yield of about 16½ tons to the acre, as compared with an average yield of 6 to 8 tons. At another Potato competition about 1 cwt. was lifted from 1 sq. rod, making 160 cwt. to the acre. This was a good yield for an early variety, as in smoky industrial districts early sorts do not give the crops they do in the country. There are, then, plenty of Potatoes if we can make them keep. It is of prime importance to pick over all the Potatoes lifted. Any easily detachable second growth should be twisted off at once, and all the Potatoes so removed should be thrown into a separate heap. They are *new* Potatoes. The skins can usually be scraped off comparatively easily with the finger-nail, whereas the skins of the first growth are firm and hard, showing that the tubers are practically ripe. Naturally, one would advise using the new Potatoes first, but for those who like to experiment there is an ingenious method of keeping them in barrels till Christmas or the New Year. Space will not allow of this being dealt with here at length, but the writer can furnish particulars of the method to any who wish to try it. It must suffice to say that the new Potatoes are thrown into large barrels which are sealed up and buried in the ground. Tins may also be used for the purpose, and it will be found that they will keep for quite long periods if so buried.

What about the Potatoes with second growth which is not easily detachable? Is this to be cut off, or are we to risk storing such tubers with the general crop? That is a very debatable point, and, of course, it depends to some extent on the number of such tubers dug up during the lifting of the crop. If the second growth is cut off a big wound in the tuber is made, and if this is no immediately rubbed over with lime, disease germ which are always lurking about (though not nearly so numerous this year as they were in a wet season like last), will enter the tubers, and greatly impai their keeping quality. If there are but a few such tubers, it would be well to use them immediately or to give them away to a friend and request him to do so. Where there are a large proportion, how ever, cutting is recommended, whenever feasible The cut surfaces should be immediately rubbed in lime, which seals them up, and does not injure the body of the Potato.

And now as to the actual storing of the tubers The sack method is, in any case, not a good one, as sacks have a habit of bursting when being moved from place to place and are easily entered by rats Many gardeners merely store their Potatoes on the floor of a shed or outhouse, throwing straw or mats over them to exclude light. This, where rats and mice do not give trouble, is an excellent method Large barrels with wisps of straw up their centre to act as ventilators, each barrel being covered with a board or two, form a very good means of storing Potatoes, where there are insufficient to make a proper clamp out-of-doors. Space will not allow of clamp details being given, but readers will easily find a diagram if they turn up their gardening books.

After sorting, Potatoes should be allowed to get reasonably dry before any storage is attempted. They must not, however, be exposed unduly to light or they will turn green and become very unwholesome. If one is at all afraid of heating, of which, by the way, there should be no danger if they are properly dried, flowers of sulphur may be procured from any chemist and this may be dusted freely over the Potatoes as they are put into barrels or clamp. As mentioned, those from which second growths have been removed should be dipped in lime. A little lime in powder form can be freely dusted over the whole crop without fear of injuring them.

As regards other root vegetables, Carrots, Beetroot, Salsafy, Parsnips and the like are usually stored between layers of sand in a cool dark frost-proof shed. The lifting of Beetroot and Salsafy requires special care, unless in the case of Beetroot, it is one of the non-bleeding varieties. If the roots are speared there is sure to be loss of colour or quality. Amateurs are seldom able to lift a whole row of either crop without spearing one or two, though, of course, experienced gardeners make it a point of honour not to do so. An old gardener comes to mind who used to fine himself half-a-crown for every Beetroot he speared. This was, as it appeared, very heroic of him, but when he explained that

he put it into a box from which he bought his tobacco, the high opinion previously formed faded away!

It is a great mistake to store the roots named with their tops on. These should be twisted off, not, as some people advise, cut off close to the crowns. The roots should be put out in the sun to dry for a short period, as this will do them no harm at all. It is not necessary to use dry sand for storing them, though some people consider it is better to do so. Should there be any danger of the shed not being frost proof, a good thickness of bracken or dried leaves on top of the sand bed will prevent possible injury.

Just a word anent the storing of dried Peas and Beans. Of Dutch Brown and other Haricot Beans, the whole plants are best pulled up and hung up to dry as soon as the seeds are reasonably ripe. Directly the pods are hard and papery, the beans are shelled, further dried on plates in a warm room, and stored in tins or bags until required. Dwarf Peas may also be treated in this way.

There are a good many crops for which it is unnecessary to arrange storage. Swede Turnips, Kohl Rabi, Artichokes, Celery and Leeks are among the most important of these. They can quite well be left in the ground to be pulled or dug as required. Parsnips, Salsafy and Scorzonera also stand the frost remarkably well, but in many cases the ground they occupy is required for trenching. They should in that case be lifted and stored in the manner indicated.

In conclusion it may be well to point out that all stored crops should be carefully inspected from time to time. Traps for rats and mice must not be overlooked. The storehouse should always be kept well aired, clean and tidy. Some gardeners, after they have inspected their stored crops, leave the ones they find decaying lying about the store, not considering how the germs will spread from these to others and infect the place. Such culls should be used or destroyed at once. They are then no danger to their fellows. E. T. Ellis.

OBITUARY

MR. WALTER SPEED.

Many readers of The Garden will be sincerely sorry to hear of the death of Mr. Speed, one of the greatest British gardeners of the last five decades. For more than half a century he had had charge of the gardens at Penrhyn Castle, North Wales, one of the most important and beautiful gardens in Britain. As a gardener nothing that Mr. Speed did but he did well. As a Grape grower he was certainly second to none. Who that had seen his old faggot of Vines, pruned in his own inimitable way, will ever forget the monster bunches he grew each year, and their perfect finish? Most of his Peaches under glass he lifted and replanted each year and fed with new loam. I have seen them grown as well, but never better. His Fig trees on walls out of doors, to see them in fruit was a sight never to be forgotten. Carnations and plants generally under glass were always well done. The old-fashioned walled in flower garden near to the castle was a veritable gem when in full beauty in late summer. The climate of this part is mild; protection from high winds only is needed. Here it was provided, and the growth of the plants was as free and unrestricted as one often finds it under glass in many parts less favoured by weather conditions—hardy Fuchsias being especially noteworthy. Mr. Speed had a wonderful personality. He radiated cheerfulness, geniality and real kindness wherever he went. The sincere sympathy of all who knew him will go to his bereaved family unstintedly. O. T.

CORRESPONDENCE

A COVER WASH FOR APPLE SUCKER.

In The Garden of April 16th, 1921, page 184, Mr. Ray Palmer gives a recipe for destroying the Apple sucker. He says the only thing that can be done is to use a "cover wash" made of lime, salt and waterglass, but does not give the proportions of each to use. I should be grateful to you if you would do so.—T. Dawson.

[Our correspondent's letter was submitted to Mr. Ray Palmer, and as his reply is of general interest, we append it: "The best formula for a 'cover wash' for preventing the hatching of eggs of Apple sucker and aphides is the following: quicklime, 20lb.; common salt, 4lb.; silicate of soda (waterglass), 1lb.; water, 10 gallons. Slake the lime and allow to stand several hours, then mix with half the water. Dissolve the salt in the other half and add the waterglass (previously thinned with boiling water). Then thoroughly mix the two liquids and strain through sacking or a fine sieve. The wash is often used without the waterglass, but is not so good, as this acts as a 'binder.' Apply with a powerful sprayer at the end of February or early March. The trees should be well covered all over, particularly the terminal buds."—Ed.]

THE NEW NARCISSIFLORA STRAIN OF TUBEROUS BEGONIA.

TULIP PRINCE DE LIGNY.

No yellow early-flowering Tulip is more satisfactory when planted outdoors than this. This spring I had practically every yellow in commerce growing in patches side by side, and it was a useful object lesson how much better Prince de Ligny stood several severe buffetings by wind and rain than any of the others. When nearly all of them had broken stems and dishevelled flowers, it had hardly "turned a hair." This immunity to rough weather may be partly accounted for by the way the blooms have of closing up when bad weather comes, and their pointed shape which, with regard to rain, is as good as a "duck's back." This Tulip has an exceedingly graceful appearance, either as a cut bloom or when growing, because of its tall, slender stems and long shaped, pointed flowers, the petals of which slightly reflex when the blooms are fully open. For an early-flowering yellow Tulip give me Prince de Ligny.—Joseph Jacob.

A NEW BEGONIA.

I am sending you herewith a photograph of a plant of the new "Narcissiflora" strain of Tuberous Begonia. The characteristic trumpet effect occurs, of course, only in the male flowers. Seedlings of this new strain have the range of colour usual in Tuberous Begonias, and I think you will agree that the unusual, yet beautiful, form should ensure popularity for this novelty. — D. Grant McIver.

BRITISH BULBS.

I note your remarks *re* the purchase of home grown bulbs instead of Dutch ones, but one does not know where to send for them. I would prefer to support the English growers in preference to the foreigners if I knew where to send, and if the bulbs were as good as the Dutch ones. I did see in your issue of September 17 an illustration of an English bulb farm, but nothing in the letterpress to show where it was situated; perhaps you would help me in the matter.—F. W. Harris.

[Our correspondent's letter bears out our statement as to the necessity of advertisers explicitly stating "British grown." Messrs. J. R. Pearson and Sons, Limited, of Lowdham, Notts, and the Anglesey Bulb Growers' Association, Llanfair, P.G., both sell only home-grown produce, and both advertise in our columns.—Ed.]

You mentioned, Mr. Editor, the Anglesey Bulb Growers' Association in your issue for October 8. Living as I do in Wales I have been most anxious to try what Wales could produce in the way of Daffodils. Moreover, now that my adopted country

is represented on our British coinage by the figure of a Daffodil, it ought to try to live up to it. Last autumn I wanted to test how Anglesey-grown bulbs would behave in pots in a cool greenhouse. A nice representative collection of about twenty varieties in half dozens was sent me. Nothing could have done better. To show that the varieties were neither all cheap nor all dear, two of the very best were Great Warley and Citron. I never knew before the charm of the last named as a pot plant. It makes an excellent companion for Lucifer. This autumn I wanted to see how Anglesey stands in the *Tulip* line, so I purchased three lots of 500 Clara Butt bulbs; one from Anglesey, one from Holland and one from England. To judge from appearances the samples must be placed in the order named. I am convinced that as good Tulips—late *and* early—and as good Daffodils—not perhaps the famous old Polyanthus-Narcissus varieties—can be grown in the British Isles as in Holland, but success does not come "By singing—'Oh, howbeautiful' and sitting in the shade." The British grower has something to learn—some at any rate have. I really could weep when I see two trays of two varieties of newly bought English grown Darwins in my bulb shed; they are so far removed from what they should be. "There is something rotten in the state of Denmark." It helps nothing or nobody to shut one's eyes to *very* unpleasant facts. British soil in itself is no more efficaceous in producing good results than Abana and Pharpar. So very, very much depends on the human element. "British growers, wake up."—JOSEPH JACOB.

NEPETA MUSSINI: ITS VALUE AS A DRY WEATHER PLANT.

IN the long time of drought, when favourite flowers faded before they were half-opened and when it was impossible to water with any degree of satisfaction one half the plants in the borders, even then one had some little compensation in subjects that were braver than the rest. One of the chief was the Cat Mint, Nepeta Mussini, with its multitude of spikes of lavender blue blossoms borne from out grey-green foliage—a perfect setting for such a blossom. It was our good fortune to possess a few roots that in some mysterious way seemed to recuperate during the night to carry them on until midday, and though for a few hours in the terrific heat they were like other things, utterly prostrate, they quickly recovered and by night looked as if nothing came amiss. The general remark of friends who visited the garden anent the Nepetas was: "These seem to stand it very well"; while others, seeing this old friend for the first time, were charmed with the exuberance of its blossoms and the "tone" it lent to a border. No praise is too great for Nepeta Mussini, as it has flowered as usual since before the middle of May. It seems, indeed, to despise adverse weather conditions No hardy flowering plant could well be easier of propagation. Already a number dibbled in borders beneath a south wall have got hold, while propagation may still be practised wherever a little protection can be given. Certainty Nepeta Mussini is hardy to a degree, and needs no protection beyond its own straggling stems which if, left until spring, new growth will start immediately when cutting back takes place. It is strange that so many folk who are interested in hardy plants have not as yet made its acquaintance. Plant it in conjunction with white Pinks for a June display. It never fails, be the season what it may.—CLAREMONT.

THE BELLADONNA LILY.

MY employer (Miss A. Peckover) and myself have been interested in the notes upon the Belladonna Lily that have been appearing in THE GARDEN. We should like to say that here they do exceptionally well. They are planted in an outside Vine border close to the wall, and this year, from a row 30ft. long, there have been 220 strong spikes of bloom. The enclosed photograph will give you a little idea as to what they were like. They have been planted several years and left undisturbed. They also do well here under a south wall. We find them exceptionally useful for house decoration, as they last a considerable time in water, and we quite agree with the writer of the article in the August 27th issue that this plant is worthy of more extensive cultivation.—W. MASON, *Wisbech*.

THE BELLADONNA LILY AT WISBECH.

THE YEW TREE IN AUTUMN.

IN the interesting article in THE GARDEN, October 8, on "Autumn Effect in the Garden," no mention is made of the Yew tree, perhaps because its aspect is considered too sombre at most seasons of the year, but when a large specimen is seen in fruit I think the mass would generally be considered quite charming. Such an example is before me now—not a handsome tree as regards symmetrical proportion, as one side is almost devoid of green branches—a condition due to the smothering process of large Elm and Ash trees on the eastern side, but the western side, which stretches outward and upward from 30ft. to 40ft. from the bole in long spear-pointed branches, heavily studded with crimson berries, is a great sight and probably owes its robust condition and fruitfulness to the position it occupies. Though not "planted by a river," a small burn which receives some sewage laves the bank on which it grows and rude winds rarely disturb its boughs. But this thing of beauty, as far as fruit is concerned, is vanishing. Blackbirds, song and missel thrushes have found it out and are devouring the berries which give the tree such an impressive appearance.—J. M., *St. Browell's*.

[A well grown Yew tree in fruit is indeed, as our correspondent says, a grand sight, but as a naturally grown tree—it is, of course, the finest of ornamental hedge plants—the Yew has disadvantages. It is slow of growth and does not fruit freely until mature; it is excessively dirty to handle and it involves a considerable area of bare ground; this last an important consideration in the not over-large garden. For these reasons it is now seldom planted except for hedges or topiary.—ED.]

BEDDING CHRYSANTHEMUMS.

I HAVE read with interest the article on Border Chrysanthemums, page 504. As a bedding variety I know of none more suitable for a clump or front row than the white Pluie d'Argent, which I have grown now for many years; plant and flowers seldom grow more than 12ins. The flower, if the plant is moderately disbudded is beautifully formed and of good size. What I seek and have not yet found are companions in different colours. Possibly some of your readers might offer suggestions. I expect the variety is known to you, otherwise I shall be glad to post a specimen.—JOHN S. NOWILL.

[Pluie d'Argent we remember as an excellent variety years ago, but thought it more or less worn out. Our correspondent appears to have an excellent stock and is to be congratulated. Champ d'Or and Harrie would seem to be its nearest counterparts as regards habit of growth, but perhaps some of our readers will offer their experiences.—ED.]

ST. LUKE'S SUMMER.

AS we are now having such sultry weather, I think we may fairly call these days St. Luke's Summer, which, according to tradition, commences on October 9th and ends on November 11th; St. Luke's Day being October 18th (the writer's birthday). The French call this period L'Ete de S. Martin. St. Luke was the patron saint of painters and physicians, and in Christian art he is sometimes represented as painting a picture of the Virgin and infant Saviour.—WALTER SMYTH.

PLANTING TULIP BULBS.

A MEMBER of a famous firm of English nurserymen has asked me to do what I can to make known the proper depth at which to plant Tulip bulbs. Every year the firm gets a number of failures sent to them. In four cases out of five the cause seems to be too-shallow planting. The bulbs of the early-flowering singles and doubles and the bulbs of Cottage and Darwin varieties should have 4ins. of soil *over the top of the bulb*. In very light soils another 1in. or 2ins. will do no harm. As I see the new Lord Mayor of London has just been chosen in readiness for his instalment into office on Lord Mayor's Day, I am reminded that a word to readers may not be out of place to ask them if they have got their Tulip bulbs in readiness for installing them, according to the old florist's time-honoured custom, in Mother Earth on the self-same day? "Breathes there the man with soul so dead who never to himself has said" I *must* have Tulip flowers in my garden next spring?—JOSEPH JACOB.

ARNATIONS AS WINDOW-BOX PLANTS

WHEN in Switzerland early in September I walked up the Lotschental on my way to the Tschingelhorn, and I was much struck with the beauty of Carnations growing in a window-box outside an upper window on one of the chalets in the village of Kipple. Although I had noticed carnations in window-boxes previously, they were nothing like this particular lot. They were, I should imagine, seedlings from a good strain. The plants were two years old, and had been allowed to grow naturally, falling over the front of the box. One plant carried seventy-two large double flowers, all open, of a rich crimson, and there was also a considerable number of buds on the same plant. I think that must be nearly a record for a single plant not growing in the open ground. There was also a plant carrying twenty-two open flowers of a deep rose pink colour. The foliage was of a rich bluish-green tone which was indicative of their splendid health and vigour. I have never yet seen anything more effective in a box for an upper storey window.—G. W. LEAK.

SUMMER-FLOWERING PHLOX IN OCTOBER.

I VISITED the gardens of the Hon. Vicary Gibbs at Aldenham House, Elstree, a few days since and was much "taken" by a border of seedling Phlox in full bloom. The varieties among them were as varied and as rich in colouring and beauty of form as named varieties. True there were a few blank spaces in the rows, the result of the plucking out of sorts not good enough to be perpetuated. The plants had been raised the previous October from home-saved seeds selected from the best varieties. Judging from the appearance of the plants, which are from 1ft. to 2ft. in height, and despite the hot weather, they will remain in effective bloom for some time yet, thus extending the season of blooming of this most brilliant of all our hardy border plants. There is nothing unusual about the raising of this plant from seed, but it is seldom that the practice gives such satisfactory results as are seen here, and Mr. Beckett is to be congratulated on his success. The secret of success in the growth and flowering of such seedlings appears to lie in the use of fresh seeds grown on strong, healthy plants. Seed in this case was sown early last October in shallow boxes in slight heat.—O. T.

THE BUSH IVY AND BUTTERFLIES.

THE Bush or Tree Ivy in full flower is evidently a worthy successor to the Buddleia as an attraction to the insect world, for on October 5th, in a garden on the Bournemouth cliffs, I found one simply alive with Red Admirals, a few Painted Ladies, bees, wasps and blue-bottle flies innumerable. The air was full of Red Admirals. I have never before seen such a host and, thanks to the wonderful weather, all such perfect specimens. Two or three weeks ago in a garden at the further end of Hampshire I watched twenty or thirty Red Admirals, six Painted Ladies, one or two belated Peacocks (for they were out much earlier than the Red Admirals this year) and a Large Tortoiseshell all feeding on a Buddleia at one and the same time! I was specially glad on each occasion to see (dare one say it?) the Painted Ladies, for they seem to have been rather scarce of late.—W. DUGGAN.

FORTHCOMING EVENTS.

October 25.—Southampton Royal Horticultural Society's Chrysanthemum Show (two days).

October 26.—Irish Gardeners' Association Meeting.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Planting Roses.—November is the best month for planting Roses, and there is little doubt that where it can be done early in the month more satisfactory results may be expected than from planting at any other time. The preparation of the ground is an important part and should be thoroughly well done, for a site well prepared will amply repay the additional labour and expense involved. In making new Rose beds where the soil is naturally of a good quality it is unnecessary to add a lot of farmyard manure, but on light soils a good supply of well rotted cow or pig manure should be added to the bottom spit of soil, and to the top one some wood-ash and bone-meal. Where the soil is very cold it is advisable to break up the spit of soil immediately beneath the prepared depth to avoid water-logging of the bed, and on such soils unless planting can be completed by the middle of November, it may be advisable to defer until February or early March according to climatic conditions. When planting, spread out the roots evenly and cut away damaged portions, and see that the roots are exposed as little as possible to cold, drying winds. The work should be firmly done, especially on light soils. Avoid planting on heavy land when in a moist or sticky condition.

The Kitchen Garden.

Red Cabbage.—Where autumn planting is practised the young plants should now be put out in firm and not too rich soil, allowing about 2ft. 6ins. between the rows and 20ins. to 24ins. from plant to plant. Good hearts may be obtained from a spring-sown batch of plants, but it depends entirely when the crop is required as to which season of planting is desirable. Although far from popular in the kitchen the Red Cabbage is much appreciated by some as a fresh vegetable. It may be cooked in similar manner to the green varieties. Do not allow the hearts to split badly before cutting them for pickling.

Hardy Fruit Garden.

Strawberries.—The newly planted ones should be gone over and all runners removed. Watering must also have attention. The continued drought makes it a difficult matter to get planting done satisfactorily. Despite the continued absence of rain weeds apparently thrive as well as ever. The hoe must be kept going to keep them in check, and to get them under and the ground in clear condition for the winter months.

Fruit Gathering.—This operation, like many others in the garden, has this season been carried out several weeks earlier than usual. Indeed, in this district people with only small quantities had actually finished picking all late varieties by the first week in October. This is, it is to be feared, too soon for such varieties as Annie Elizabeth, Lane's, Bramley's, Wellingtons, etc., but the general report is that the fruits were dropping badly as well as being savagely attacked by birds, and it was better to risk the keeping qualities than see them dwindle away on the trees. Where possible leave late Apples and Pears to hang on as long as they will, for a few slight frosts will not harm them in the least. It is to be hoped late kinds will keep better than the earlier varieties have done; at any rate, with us. When storing, avoid the use of hay or straw unless the latter may be procured very clean and sweet. The former should always be avoided as it tends to give a nasty musty flavour to the fruits.

Plants Under Glass.

Cypripedium insigne.—This variety and a few more of the easily grown and free-flowering type generally may be met with in small gardens and among amateurs' collections of plants, although there may be no pretence whatever at Orchid growing. They are so useful and the flowers last so well when cut that I wonder they are not even more widely grown. A well flowered plant, too, makes a most welcome change for indoor decoration. The earliest plants are now throwing up flower-spikes which will develop quite well in a house having a night temperature of about 50°. As Cypripediums possess no pseudo-bulbs they must at no time be dried off, but rather watered in accordance with the activity of the plants.

Calanthes.—These, too, are often grown, although no other Orchids are attempted, and where a quantity of dinner-table or house-decorating has to be done no better family of plants can be chosen. They are now nearing the end of their growth and may be allowed all the light and remaining sun available to ripen up the bulbs. The night temperature should not fall below 60°, and a warm and fairly free circulation of air will be beneficial. Keep the plants supplied with water until foliage begins to ripen and decay, when gradually lessen and withhold entirely.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Carrots.—Late sowings will make no further progress now so should be lifted before they become spoilt through splitting. This we find is one of our chief troubles with Carrots when left too long in the ground, more especially if they are subjected to much wet weather. They may be stored in a clamp similar to Potatoes, but we find the best and most convenient method is to store in a dry shed or cellar, working dry sand freely among them.

Onions.—Where the ripening process had to be assisted by placing for a period under glass, the bulbs should be stored immediately they show signs of being in the right condition. Lay them out in a loft or other suitable quarters, keeping a sharp look-out for damaged specimens; these should be laid aside and used first. Although gardeners as a rule are always delighted to be able to produce extra large specimens, there is no gainsaying the fact that bulbs of medium size are the most profitable.

Plants Under Glass.

Malmaison Carnations.—Young plants layered in August and potted into 3in. pots will now be ready for a further shift into 6in. pots. Use a compost consisting of good fibrous loam with a sprinkling of old mortar rubble and crushed charcoal or wood-ash. At this time a percentage of coarse bone-meal may also be added. Pot firmly and place near the glass, allowing ample ventilation while the weather is fine. Very little watering will be necessary during the winter months as the plants should be kept on the dry side during that period. Fumigate immediately green fly appears and keep a watchful eye for that annoying fungoid disease known as "rust."

Roses for Forcing.—Where circumstances allow for the growing of these indoors, the re-potting should now receive attention. Roses enjoy rather a heavy loam with a fair amount of bone-meal added. See that the pots are clean and the drainage in good working order. Plants suitable for lifting from the open border may also be potted up towards the end of the month; trim the roots judiciously and place in 7in. pots, shortening the growths to about 12ins. Plunge in their pots in a bed of ashes in the open until required for forcing.

Imantophyllums.—These may now be brought forward into more genial quarters and given more generous treatment in the way of feeding. Although proving most floriferous when pot-bound, they enjoy copious supplies of liquid manure, the result being seen in strength of flower spike and luxuriant dark green foliage.

The Flower Garden.

Lifting Begonia and Dahlia Tubers.—The first touch of frost affects these plants quickly so no further time need be lost in lifting and storing the tubers for the winter. The Begonia tubers should be spread on a stage in one of the vineries or any other airy structure and allowed to dry thoroughly before laying in frost-proof quarters.

Autumn Bedding.—With the end of October in sight advantage should be taken of suitable weather to get this work carried through as soon as possible. Wallflowers are still popular subjects for planting now, the numerous varieties available lending themselves admirably for colour schemes. Polyanthuses are also very effective, and for wind-swept beds are more suitable than Wallflowers. Myosotis Sutton's Royal Blue is also a favourite and makes an effective combination with White Swan Tulip planted through it. Single and Double Arabis makes an excellent carpet for Hyacinths of various shades, while other parts may be made bright by the use of Sutton's Giant Daisies and free-growing Aubrietias

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart),
Coodham, Kilmarnock

Trial of Gooseberries at Wisley.—The Royal Horticultural Society will carry out a trial of Gooseberries at their Gardens at Wisley during 1922 and 1923. They will be judged for their value for market purposes as well as for private gardens. The Director will be glad to receive varieties for trial (three plants of each of which should be sent to reach him by November 30th), and will be pleased to send the necessary entry forms on application, addressed to him at R.H.S. Gardens, Wisley, Ripley, Surrey.

The Midland Daffodil Society.—We have received a copy of the Midland Daffodil Society's annual report, which contains interesting articles to the Daffodil lover and also good illustrations of a few of the newer kinds. This should be of interest to many readers who have an affection for the Daffodil. Considering the well deserved reputation of the Society, which is, in fact, the principal Daffodil society and which many think should be the National Society, its subscription list, disregarding exhibiting trade firms, is very poor and almost parochial in character. There must be many of our readers who, while not growing Daffodils for exhibition, are intensely interested in this beautiful flower. To some of them, at any rate, it might be a pleasing duty to subscribe to this important and deserving Society. The Secretary's address is 22, Tenby Street, North Birmingham.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

DRAUGHTY BORDER (S. M. L., Lymington).—In such a very draughty border it will be difficult to induce anything, except possibly Ivy, to grow well. The best plan would be to shelter it either by building a wall or planting a screen. The Mesembryanthemum described by our correspondent is undoubtedly M. falciforme.

CULTIVATION OF TREE PÆONIES (E. H., Oxford).—The chief trouble with Tree Pæonies is in the early spring when the growths are liable to injury from frosts, so at that season some light protection should be given when necessary. The ten year old plants could be top-dressed with well decayed manure, or with a mixture of good loam, leaf-mould and a little bone meal. This would be best applied in the spring when growth recommences. Unless they are very straggly no pruning should be done. The "green deposit" on the older branches may be removed by a scrubbing brush for appearance sake; unless very dense it does not do much harm.

PLANTS FOR PAVED WALK (E. F. W., Croydon).—There are not many plants that will stand very much traffic, but most success will be obtained by the use of such as any of the dwarf Thymes (Thymus Serpyllum varieties). Even those which normally become quite 9ins. high would be kept sufficiently dwarf by frequent treading. If 2ins. or 3ins. space are allowed between the paving stones, it would be possible to grow such as Acæna microphylla, Epilobium Hectori, Arenaria balearica, Mentha Requieni, Sedum corsicum, S. hispanicum glaucum and Sibthorpia europæa in these places, even along the centre of the steps. For the sides where the traffic would not be so great the following could be planted: Arenaria balearica, Aubrietia tauricola, Campanula muralis, C. pusilla and varieties, many of the Cheddar Pinks, Draba aizoides, Saxifraga Aizoon and S. muscoides in variety. For the shady side Helxine Solierolli would grow freely throughout most of the year, but may be killed during severe winters.

PLANTING A SOUTH BORDER (G. S., Suffolk).—It seems a waste of a splendid opportunity to plant Brooms and such close to the brick wall at the back of a wide border facing south. Rather than this we suggest making a narrow border 2ft. to 2ft. 6ins. wide at the foot of the wall and planting in it, to clothe the wall, such shrubs as Escallonia Langleyensis, Ceanothus Veitchianus, Eugenia apiculata, Fremontia californica, Indigofera Gerardiana, Punica Granatum (Pomegranate), Solanum crispum, Tecoma grandiflora (of which there is the finest and oldest outdoor specimen in our correspondent's county), Clematis, a few choice Roses, Jasminum officinale and J. revolutum. In the border could be planted such as Alstrœmeria hæmantha varieties, A. pelegrina rosea, Anthericum Liliastrum, Armeria Laucheana, Cistus purpureus, Heucheras, Lychnis Arkwrightii, Monarda didyma, Inula Royleï, Thymus Serpyllum, and occasional plants of dwarf Lavender and the Southernwood. This narrow border could be separated from the main border by a path (of bricks or stone paving for choice) of any convenient width up to 3ft. The wide border could well be planted as suggested in our correspondent's letter, but care should be taken with the taller herbaceous plants not to have them so dense as to overshadow the narrow border and the wall plants.

PLANTS FOR CHALK SOILS (Scoot, Whitchurch).—Contrary to a generally accepted impression, the great majority of hardy trees and shrubs will thrive on a chalk subsoil, the notable exceptions being Rhododendrons, Heaths and coniferous trees. The soil preparations consist in well digging the loam down to the chalk, taking care not to bring any of the chalk to the surface; but, when trenching, the upper crust of chalk may be broken up with a pickaxe and left at the bottom of the trench. Any available soil or humus should be added to the soil to increase its depth as well as fertility. The best manure is well decayed farmyard or pig manure, but in the absence of these horse manure may well be used. As to chemical manures, if sufficient humus is present or can be added to the soil, basic slag can be dug in during the autumn or winter at the rate of 12lb. per square rod, while as a spring dressing, if the soil is poor and hungry, 5lb. of superphosphate of lime and 2lb. of sulphate of ammonia would be found an admirable stimulant. Space would not permit the publication of anything approaching an even moderately full list of shrubs suitable for cultivation on a chalk soil, but the following will give some idea of the types which may be confidently planted: Shrubs.—Amelanchier canadensis, Almond, Berberis in great variety, Buddleia calycanthus floridus, Ceanothus, Cistus, Cytisus, Clematis, Cotoneaster, Diervilla, Escallonia, Hypericum, Jasminum, Lavender, Philadelphus, Spartium junceum, Spiræa, Viburnum and Yucca.

TREES AND SHRUBS.

PRUNING INDIGOFERA FLORIBUNDA (A. M., Cornwall).—This pretty flowering shrub is known as I. Gerardiana, and if grown as a wall plant should have all the side shoots cut back, similarly to the method practised with Vines, in February. When grown as a bush the shoots are usually cut down by frosts, though in the warmer climate of Cornwall the frost's pruning would not be so severe as in other localities, but the bushes will flower best if they are cut back close to the ground.

SHRUBS UNDER EVERGREEN OAK (G. S., Suffolk).—It is a difficult matter to induce anything to grow under the dense and continuous shade of an evergreen Oak, unless the latter is very old and thin. The greatest success is obtained when the surface is lightly dug over with a fork and a fair quantity of fresh soil is added. Ivy would, probably, thrive best. Other shrubs that may be tried are the common Box and Buxus balearica, various Brooms, the Butcher's Broom (Ruscus aculeatus), Daphne pontica, the common Holly, Osmanthus aquifolium, Skimmia japonica and St. John's Wort.

ROSE GARDEN.

ROSE QUERIES (H. P. D., Thetford).—Of the various materials named by our correspondent as being available for enriching the very poor site on which it is proposed to plant Roses, we should prefer the pig manure, mixed, with the bottom spit, and the "old turves" (broken up) leaf-mould and soil incorporated with the top spit. With these preparations it should be possible to grow Roses with quite fair success. We should prefer to plant the Roses direct into their places as soon as the preparations have been completed and the ground has settled sufficiently. Firm planting is important. From the submitted list we should select the following twenty-three varieties as being likely to be the most satisfactory in all the circumstances: Mme. Abel Chatenay, Frau Karl Druschki, Richmond, Ophelia, Gorgeous, Mme. Edouard Herriot, Golden Emblem, Lady Pirrie, Constance, Los Angeles, Lamia, Hugh Dickson, General McArthur, Mabel Morse, C. V. Haworth, Willowmere, Souvenir de George Beckwith, Red Letter Day, Augustus Hartmann, Severine, Mme. Mélaine Soupert, W. C. Gaunt and Raymond.

FRUIT UNDER GLASS.

GRAPES UNSATISFACTORY (J. W. A., Walmer).—The description given by our correspondent is of what is known as "shanking" in Grapes, and this is usually caused by an unsatisfactory condition of the border, though overcropped Vines will often suffer similarly. But the Muscat of Alexandria is not a suitable variety for cultivation in an unheated vinery. If the other varieties have also suffered, the remedy lies in putting the border into a proper condition. If it is known that the drainage is effective, probably it would be sufficient to carefully remove the surface soil until good roots are reached and then top-dress with good fresh soil; but if the drainage is open to suspicion no measures short of wholly remaking the border will be satisfactory. A good soil for either purpose would consist of roughly chopped, fibrous loam to which has been added a goodly proportion of lime rubble, 1cwt. of ½in. bones and a bushel of quicklime to each cartload of loam. The whole should be well mixed and be made quite firm in the border.

MISCELLANEOUS.

MANUAL OF CONIFERÆ (E. F. W., Croydon).—"Veitch's Manual of Coniferæ" was published by Messrs. James Veitch and Sons—the first edition in 1881 at 7s. 6d. and the second and last in 1900 at £1 1s. The work has been long out of print and the firm of Messrs. James Veitch is no longer in existence. It is now rather a rare work, but may be obtainable from a second-hand bookseller.

ERADICATING BUTTERCUPS FROM A LAWN (D. G., Troon).—As hand weeding is not practicable and sulphate of ammonia has failed, the best method would be to apply one of the lawn sands which may be obtained from any of the horticultural sundriesmen or from a local seedsman.

BENTHAMIA FRAGIFERA (S. M. L.)—This is also known as Cornus capitata, and it is quite common in Cornwall and many parts of Ireland and South-West Scotland. We have seen seedlings growing up around the parent plants in Cornwall. It usually requires protection elsewhere in our country.

KEEPING IRIS BULBS (Malta Enquirer).—If the bulbs of Spanish Iris have been recently brought from Malta there should be no difficulty in keeping them sound until next spring, but if not planted then they would shrivel and be useless before the following year. The Irises could well be grown in a window box. The bulblets could be planted out in ordinary garden soil to grow on into flowering size.

DEFORMED SNAPDRAGON (M. M., Swanmore).—The Antirrhinum sent shows the form known as "Peloria." It is fairly common and differs from the normal in all the coloured parts of the flower being developed alike instead of the lower forming a lip and the upper a curious turned-back hood. The abnormality is carried into the inner part of the flower as well, for there are five instead of only four stamens.

TROUBLESOME WEED (W. R. J., Cornwall).—It should be scarcely necessary to sacrifice a season in order to continue eradicating the troublesome weed before planting the shrubs. Its persistent presence is an indication of soil poverty, so that a good dressing of organic manure would do a great deal towards checking the weed. If this can be done and the surface soil is hoed frequently the weed should soon be cleared.

BOILER FOR HEATING SMALL GREENHOUSE (T. N. T., St. Heliers).—Portable stoves are very unsuitable for heating glasshouses, as they give off fumes which are injurious to the plants. The best types of small power boilers are such as The Loughborough (Messrs. Messenger and Co., 122, Victoria Street, London, S.W.1) and The Silver Medal Horse Shoe (Messrs. Charles P. Kinnell and Co., Southwark Street, London, S.E.1). Prices of these are not advertised, owing to frequent fluctuations in values, but they can be obtained on application to the makers.

NAMES OF PLANTS.—M. G., Barnt Green.—Cornus Mas variegata.——V. A. C., Cromer.—1, Aspidium aculeatum; 2, Asplenium Adiantum-nigrum; 3 and 4, Forms of Aspidium angulare; 5, Aspidium angulare proliferum; 6, A. a. lineare; 7, Polypodium vulgare cambricum; 8, Aspidium falcatum; 9 and 11, Nephrodium Filix-mas cristatum; 10 and 12, N. Filix-mas var.——W. D., Hindhead.—Clematis Rehderiana.

NAMES OF FRUIT.—Stobie Prior.—Apples: 1, James Grieve; 2 and 3, Blenheim Orange; 4, Cox's Pomona; 5, Maltster; 6, Tower of Glamis; 7, Kedleston Pippin; 8, Sissy Apple; 9, Siberian Crab.——A. M., Cornwall.—Apples: 1, Chatley's Kernel; 2, Bramley's Seedling.——W. D., Exmouth.—Your Apple trees are correctly named.——J. R. B., Uttoxeter.—Apples: New Hawthornden (large green fruit), Cellini (large striped fruit), Fearn's Pippin (small striped fruit).—M. E. F.—Apples: 1, Blenheim Orange; 2, Round Winter Nonsuch; 3, Oslin; 4, Lemon Pippin; 5, Claygate Pearmain.——J. R. S., Rotherham.—Apples: 1, Lord Derby; 2, Nelson Codlin; 3, Withington Fillbasket; 4, Pine Apple Russet.——F. M. S., Yorks.—Apples: 1, Cox's Pomona; 2, Lord Suffield; 3, Lane's Prince Albert; 4, Lord Derby. Pears: 5, Souvenir de Congres; 6, Duchess d'Angouleme. We do not know the Apple Improved Cockpit to which our correspondent refers, so cannot speak of its ancestry.

BIRMINGHAM
GREAT CHRYSANTHEMUM SHOW
BINGLEY HALL,
Tuesday, Wednesday and Thursday,
8th, 9th and 10th November.

Schedules and all particulars may be obtained from ALFRED NOAKES, 148, Bristol Street, Birmingham (Secretary).

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THE GARDEN

No. 2606.—Vol. LXXXV.] [October 29, 1921.

NOTES OF THE WEEK

NOVEMBER, which is now upon us, is probably the busiest month of the gardening year. At any rate, it should be! The shortage of rain which we have had to endure this autumn has ostponed such planting as we are wont to get ver in early autumn, and it will need some really onsiderable falls of rain to render most soils fit r this work. In the case of new plantings there the added difficulty of getting the nursery soil oist enough to permit of removal, so that work uring the coming month is practically certain to be rtailed. Fortunately, the ground is wonderfully arm for the season of the year, but the lengthening ghts give, every week, a longer period of unecked radiation and the shortening days will be handicap on outdoor work.

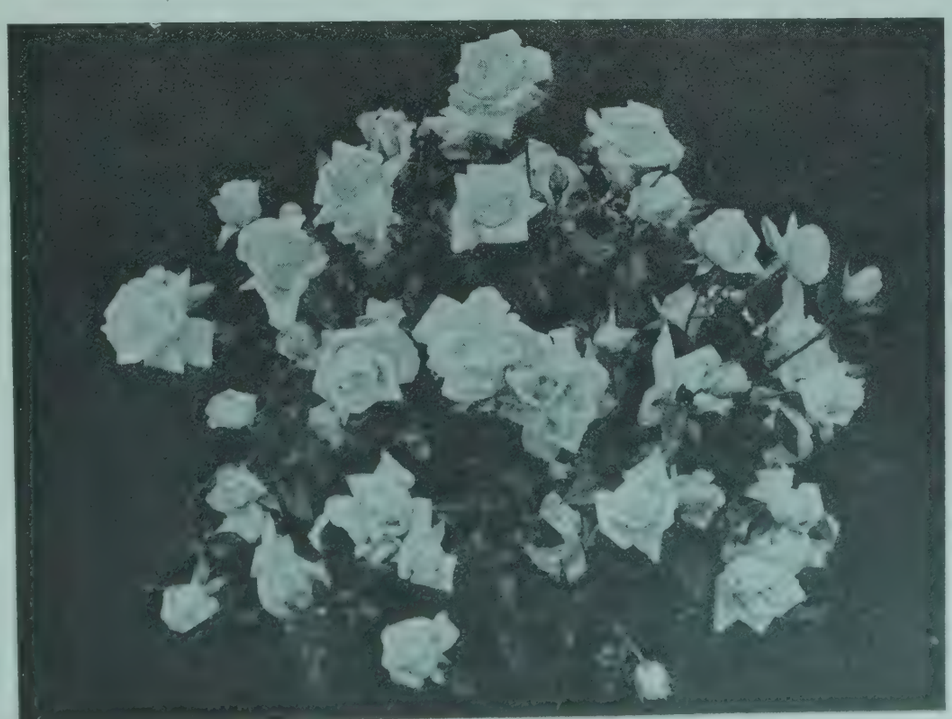
The Rose Order.—This issue is largely devoted different aspects of the culture and arrangement the Rose. The old hand will have placed his rder weeks or months ago, thereby greatly enancing his chances of getting the exact varieties e would like. There are, however, numbers of eople who for one reason or another have not nown until quite recently just how many trees ey will require. No time should now be lost placing the order, even though the Roses may ot be wanted for some time to come. It is in ny case useless to harass the nurseryman by emanding immediate delivery until rain shall have endered the ground fit for he lifting. Even then any of us will have to ossess our soils in patience while, for "first come, first erved" is a good rule, trictly followed by reputble firms.

Making ready.—Ground or Roses should, if possible, e made ready a few weeks efore the trees are expected, o that it may have time to onsolidate a little before lanting is carried out. If his work has not been done, it should be put n hand at once. Admittedly t is not so easy to dig one-dry ground as it is hat saturated by rain, but f the ground is now broken up, when the rain comes it will percolate much more eadily and will greatly ssist consolidation. The Rose is undoubtedly a rank

heavy soil. Except on calcareous soils, therefore, a liberal addition of ground limestone or, preferably, old mortar rubble should be made in addition to the cow or horse dung always advocated for light and heavy soils respectively. On some soils—those, of course, in which phosphates are deficient—a dressing of basic slag will prove beneficial. This, it has been noticed, has a good effect upon the colour of the darker Roses. It should not be buried, but should be lightly pricked into the top 2ins. or 3ins. of soil. The desirability of good turfy loam for the rose garden, where obtainable, needs no labouring.

The Planting.—When planting time does come, allowance should be made for the further settling of the beds so that the trees should be planted a little deeper than they will ultimately be wanted. Too shallow planting is one of the worst (and commonest) errors in Rose growing. With dwarf Roses it is very desirable to keep the junction of stock and scion covered, as it gives the tree a chance of establishing itself on its own roots. There is a great deal of nonsense written about the necessity for spreading out the roots not only of Roses, but of fruit trees and, indeed, of deciduous trees generally. When the trees are received from the nurseryman, the roots of each tree will almost always be found to lie all in one direction. The reason for this is that the stocks have at least once and probably twice been planted by simply laying them in a ploughed furrow and ploughing another furrow to them. That they have succeeded under this rough and ready treatment the trees bear witness, but that is by the way. The roots have by this time developed a strong inclination to grow in one direction only and if they are bent in any other and released, they will be found to spring back practically to their original positions. If, now, the roots are, as is so often recommended, carefully spread out, they are certain to rest "uneasily" and when opportunity offers through the softening of the soil by rain or otherwise, the spring action of the roots will come into play and the plant will be loose in the ground. Home-grown trees planted deeply and very firmly in soil suitable in texture and in good condition for planting and having the advantage of a pure atmosphere will almost invariably produce results as good as can be desired. The picture at the bottom of page 537 represents a rose garden the first season after planting with British grown Roses on the Briar stock. There is no reason why equally good results should not always be obtained.

Mildew.—There are several fungoid diseases which affect the Rose, but the worst is unquestionably mildew. Conditions inimical to healthy, well ripened growth leave the plant particularly susceptible to these attacks and draughty situations are, of course, particularly favourable to this hideous and insidious pest. Climatic conditions are almost invariably responsible for the actual attack and these cannot be modified as regards Roses outdoors. Prevention is here, as always, more effective than remedial measures. Care should, therefore, be taken to see that conditions are favourable for healthy, well ripened growth, and varieties known to be susceptible, however desirable they may seem in other ways, should not be grown. Foliage so nfected is peculiarly loathsome to some people, though others seem to trouble little about it. These last should assuredly be given a monopoly of the soft-leaved and consequently especially susceptible varieties at any rate, as regards [illegible] or [illegible]



AN EXCELLENT GARDEN ROSE, GOLDEN EMBLEM MAKES A PRETTY BASKET.

ROSES AND ROSE GARDENS

"A Rose by any other name" may "smell as sweet," but as a garden plant its effectiveness very largely depends upon its setting. The following notes should be useful for gardens of all shapes and sizes.

THE considerable mansion with abundance of land may have stately terraces and lordly parterres, enclosed gardens of many kinds and wildernesses; the denizen of "Suburbia" must be content with a strip little wider than his house frontage and of no great length. Both, however, may, if they wish, have a rose garden, albeit on very differing scales, and who shall say that oft-times the owner of the little garden, with its few Rose bushes on which he lavishes personal care, does not get greater enjoyment from *his* rose garden than the squire of many acres from his more spacious one?

There are many gardeners, many excellent gardeners from one point of view, whose chief joy is in a plant well grown. A Rose or a Cabbage brought to perfection affords them equal transports of delight, and if the two in their gardens happen to be in juxtaposition it matters very little. Every man to his taste and every garden for its owner's. The following notes will not interest such gardeners, so they may turn the page.

In the smallest garden, space may be found for a tiny formal rose garden, though it consist only of four L-shaped beds set in turf, surrounded by a green hedge (for preference) or by a screen of Ramblers. In the centre may be a bird-bath or even a small sundial.

Where greater space is at disposal there is necessarily more scope for individual taste and judgment. One may have a garden austerely formal in design with perhaps two rows of beds on either side, each of moderate width and divided as in Fig. 1. Some simple centre treatment and pivotal ornament alone redeem the quiet severity of ordered beds, trim lawn and clipped surrounding hedge. This type of design is varied sometimes by surrounding the garden by banks of Rose species instead of the deep green hedge. The writer yields place to no one in his admiration of the various wild Roses, but he cannot think that this is the best place for them. They have density enough to obscure any solid background placed behind them and not weight enough to form an adequate background in themselves. The same applies even more forcibly to the Roses on poles, which so often form a rose garden surround, unless they are backed at a little distance by solid planting. Even then the effect they produce does not appeal like the ordered simplicity and glowing colouring of the type of garden first mentioned.

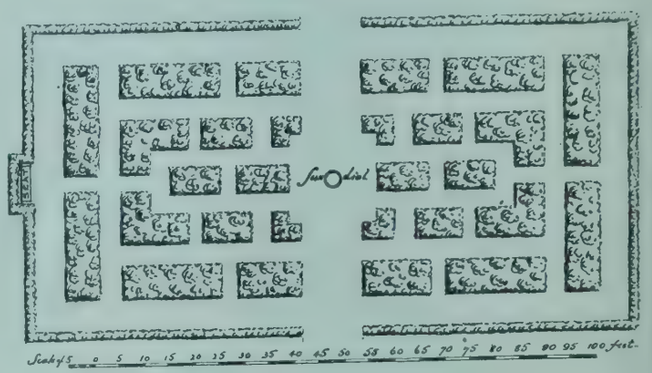


FIG. 1.—THE OBLONG ROSE GARDEN, OF WHICH THIS IS AN EXAMPLE, IS, WHERE FEASIBLE, THE MOST DECORATIVE OF ALL.

Formal gardens, whether rose or other, need not, of course, be oblong. They may be square, circular or oval. The square garden is, of course, but a "particular case" of the oblong one, and when of fair size may be made extremely beautiful. Circular and oval rose gardens are, unless some special situation call for them, a mistake. The Rose undoubtedly looks best in well proportioned oblong beds *one variety in each bed.* There are, however, cases where circular or, more frequently, oval gardens are the best and easiest solutions of a problem. Imagine a garden on a hillside adapted to fit the moulding of a hollow, either natural or formed incidentally, when excavating stone or gravel. Below this rough shelf the ground falls again to a ravine. Here, then, is a case for an oval garden, and on the banks, above a Yew hedge if possible, for the Rose species surround. Sometimes a circular garden may be desirable where, in extensive grounds, vistas cross. Situation perhaps points to this for the rose garden. Figs. 2 and 3 give designs for elliptical and circular rose gardens respectively, bearing such situations in mind.

The sunk garden has many admirers, and where space is limited and numbers of separate gardens out of question the rose garden may be formed as a sunk garden. An excellent illustration of this treatment is shown on page 537. Though this type of garden lacks the simplicity and some of the dignity of the plain rectangular treatment, it has a quaint tidiness which reminds one of a Dutch garden, and this effect can, where desired, be accentuated. Roses are often used for planting a paved garden, but in some way neither the Roses nor the paved garden look altogether happy so treated. Dwarf Roses, at any rate, have not that mounding, spreading habit so delightful in a paved garden, and the soft greys and browns even of self-faced paving, delightful as they are in themselves, scarcely provide an adequate foil for the pure rich colourings of the Rose. Mauve and grey are the colours which especially tone

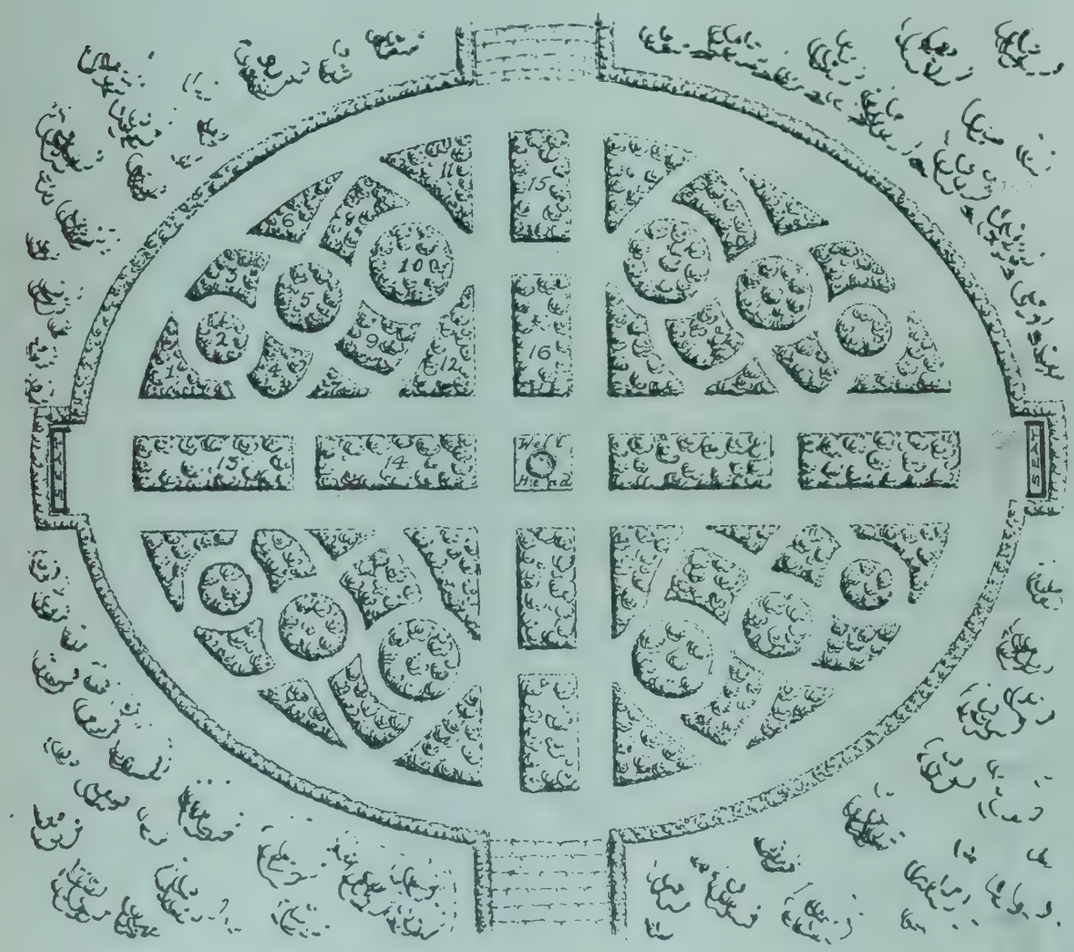


FIG. 2.—THE ELLIPTICAL GARDEN IS SUSCEPTIBLE OF RICH TREATMENT.

The beds might be planted as follows: 1.—*Mrs. A. R. Waddell.* 2.—*Ecarlate or Red Letter Day.* 3 *and* 7.—*Pauline Bersez or Molly Sharman Crawford.* 4.—*Pharisaer.* 5.—*Lady Hillingdon.* 6.—*Château de Clos Vougeot.* 8.—*Ophelia.* 9.—*George C. Waud.* 10.—*General McArthur.* 11.—*Joseph Hill.* 12.—*Golden Emblem.* 13 *and* 15.—*Jessie.* 14 *and* 16.—*Pink Delight or Maman Turbat.*

with paving, and they are entirely wanting in the Queen of Flowers.

Happy indeed should be the hillside gardener. Terraces are always charming, and a properly contrived terrace rose garden is delightful. Grass walks should be introduced on every tier, but the arrangement of the beds must needs depend on the width of the terraces. The intervening walls, whether shallow or deep, can be Rose-clad. If shallow, the pillar Roses will be of service. If taller, Wichuraianas above or Ramblers beneath may be used to drape them. *Drape* them be it noted, not *smother* them. To build a beautiful stone wall and then entirely hide it, even under charming climbers, is wicked!

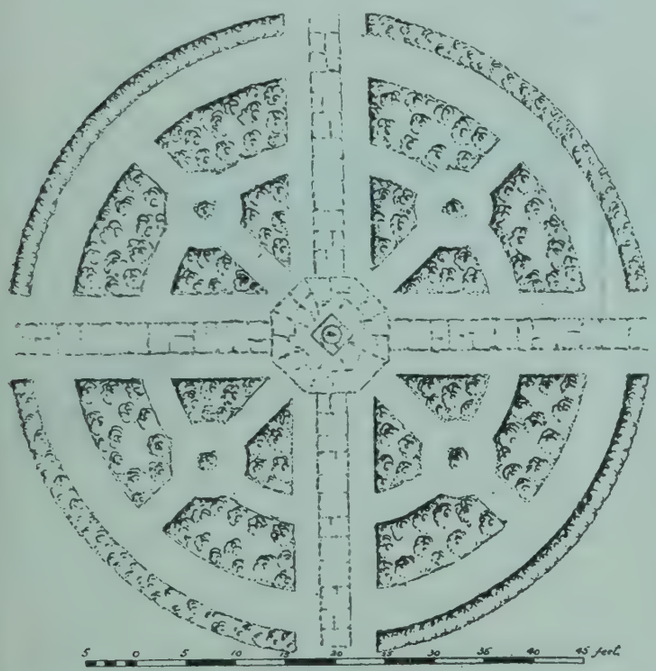


FIG. 3.—THIS SMALL CIRCULAR GARDEN WITH FOUR PILLAR ROSES TO GIVE IT BALANCE WOULD BE VERY EFFECTIVE.

So far we have considered rose gardens of ordered formal design, and before passing to more informal treatment it may be well to point out that rectangular gardens may be filled with beds forming sweeping curvilinear lines, the formality of the garden, such as it is, consisting only in the regularity or symmetry induced by quadruplicating the design in each corner of the garden around a central feature. Gardens with straight boundaries it may be well to point out, even when four-sided, are not necessarily rectangular, so that the diamond shaped garden sometimes gets over a difficulty, especially when a long vista strikes the garden boundary, perhaps a road, at an acute angle. A treatment for such a position is shown in Fig. 4.

We come now to quite informal rose garden treatments, though it is well to state at once that the ordinary garden bedding Rose is not well suited to purely informal treatment. The many Rose species and certain more free-growing Roses which are dealt with on another page may be arranged informally with splendid effect, especially where a natural hollow can be utilised for the purpose. Where this is wanting, excellent results may be obtained by a little contouring, aided by a judicious arrangement of backgrounds. Where this method is practised great care must be exercised to use only varieties with a graceful habit of growth, and these, leaving aside species of course, will generally be found in the Noisette, Tea, Hybrid Tea and Polyantha classes and in that order. Alister Stella Gray, Rêve d'Or, Crepuscle, Fellenberg, L'Idéal, Mme. Pierre Cochet and William Allen Richardson are examples of suitable Noisettes; Lady Hillingdon, Billard et Barré, Alexander Hill Gray, E. Veyrat Hermanos (for a hot corner to well ripen the wood) and Homère will serve to represent Teas; and Joseph Hill, Sarah Bernhardt, Reine Olga de Wurtemberg, Pharisäer, Lady Ashtown, Mrs. A. R. Waddell, Mme. Jules Grolez, Ophelia, Gustave Régis and perhaps Mme. Abel Chatenay the Hybrid Teas. Of the Dwarf Polyanthas the single ones are preferable for this purpose, and what could be more appropriate than that beautiful new Rose Laxton's Pink Delight. In planning the informal rose garden diverse habits of growth may be used to provide contrast almost more largely than contrasting coloration. In the formal rose garden, on the other hand, care must be taken to avoid the heterogenous effect produced by alternating tall and dwarf varieties. It is usually better to plant one variety in the beds surrounding a sundial or other central feature, though two varieties may be used of either sharply contrasting or harmonising colouring, the opposite beds being planted with the same variety. The two varieties thus employed should be as similar as possible in habit of growth and freedom of flowering. A particularly suitable Rose for these central beds, at any rate on light soils, is Lady Hillingdon, as it is soft, yet noteworthy, in colouring, has good foliage and yet, owing to its slenderness of growth, may be planted fairly thickly. The oblong beds in the central vista of the oval garden of which a plan is given, are intended to be filled with Dwarf Polyantha Roses. The [illegible]

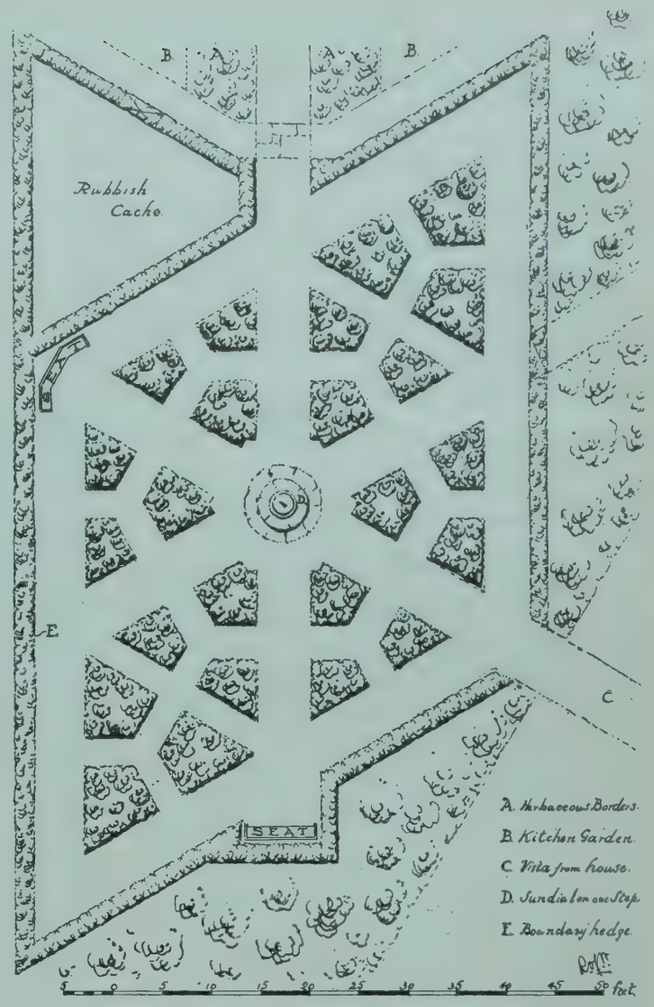


FIG. 4.—THE DIAMOND-SHAPED GARDEN IS OFTEN USEFUL WHERE THE GARDEN BOUNDARY CUTS AWKWARDLY.

THE SUNK ROSE GARDEN HAS A QUAINT, NEAT EFFECT AND IS VERY SUITABLE WHERE SPACE IS LIMITED.

beds in the same garden would be filled with rather dwarf, free-flowering and brightly coloured varieties, as it would be desirable to emphasise these beds as far as possible. Speaking generally, the taller growing Hybrid Perpetuals, if used at all, are better kept to the outer beds in a formal garden, which beds a nice sense of proportion will always make "heavier"—rather wider and considerably longer—than those nearer the centre of the garden.

THE ROSE AS A CUT FLOWER

"Ye violets that first appear
By your pure purple mantles known
Like the proud virgin of the year
As if the spring were all your own
What are you, when the rose is blown?"

SO wrote Sir Henry Wotton, in his poem in praise of Elizabeth of Bohemia, some three or four hundred years ago. If the Rose was thus pre-eminent in those far away days of Elizabeth and James I, when the varieties grown in our English gardens must have been practically confined to the summer-flowering sorts, the Gallicas, the Damasks, the Provence or Cabbage Roses, how much more must this be so to-day? For now the Hybrid Perpetuals and Chinas, the Teas and Hybrid Teas with all their grace of form and beauty of colouring, have been given to us in almost infinite variety; and in addition to these we have the Wichuraianas and other ramblers, whose rampant habit, magnificent foliage and profusion of bloom add incalculably to the gaiety and brilliancy of our gardens.

The Rose certainly now reigns supreme in the garden as a decorative plant, for no other plant with which I am acquainted will flower from the end of May right on into November, and no other plant has the infinite variety and the charm of the Rose.

The supremacy of the Rose in the garden will hardly be disputed, and as a cut flower it surely is equally pre-eminent. We grow a great many different varieties of Daffodils and Narcissus, which for their beauty of form and lasting powers are so much appreciated as cut flowers; and I am sometimes almost sad for them when our forced Roses come into bloom in April, for though the Daffodil still reigns supreme in the garden, the Rose asserts herself as the queen of flowers when brought into the house; and visitors coming into one's drawing-room are more attracted by a vase of Richmond or Ophelia, not perhaps specially well grown, than by the most exquisite specimens of Mme. de Graaf or Weardale Perfection.

Why should this be so? In a sense the Daffodil, the Iris and the Lily may claim even greater perfection of form than the Rose, and certainly individual blooms of the Daffodil and the Lily last considerably longer than do those of our favourite flower. Yet no other flower combines the delicious fragrance, the warmth and delicacy of colouring with the variety of form, foliage and habit which endear the Rose to us all. The individual blooms may be fleeting in their beauty, but this, I maintain, is one of their charms. The reason we love to have flowers in our rooms is because they bring with them a feeling of freshness and new life. We do not really care for everlasting flowers, nor for dried flowers. We want something which is "new every morning"; and therefore nothing is so wholly delightful in our drawing-rooms as a bowl of freshly cut Roses arranged with their own foliage; nothing so charming on our dinner-tables as low vases or bowls of the same flower.

At our local flower show we have been obliged to introduce a separate class for "table decorations arranged with Roses," for we found that the Roses always took the first prize, causing much heart-burning among those ladies who had arranged beautiful tables of Carnations or Sweet Peas, or indeed any other flower.

The art of arranging Roses in the house is one which does require a certain amount of leisure, as not only do they frequently want renewal, but also if they are really to look their freshest and most beautiful, they must be cut some hours before they are needed, and, after having their stems scraped or lightly hammered, they should be put into deep basins or jugs of water where they can drink their fill before being placed in vases. Treated in this way, and if the blooms are cut in a half-open stage, the flowers should keep fresh and bright for quite two days. Many of the Ramblers and Polyantha Pompons will last much longer than this; but to my mind they do not come into quite the same class as those Roses whose individual blooms we admire, and, personally, I am not specially fond of them as cut flowers. The Ramblers, of course, look well in a house where there is a large hall and where tall vases, standing on the ground, can be filled with long sprays of bloom in such a way that we can look up at them as we do when they are growing up pillars or over arches. On the other hand, the beautiful Hybrid Teas—Ophelia, General McArthur and others—are more beautiful if placed on somewhat low tables, by which means we can look down on them and see their lovely shapes and colours.

I have mentioned Ophelia more than once because, owing to its delicacy of colouring, grace of form and sweetness of scent, it is quite one of the best of recent Roses to grow for cutting. It also has the great merit of possessing a straight and smooth stem. Any visitor to the R.H.S. summer or autumn show cannot fail to have been struck both with its beauty and its popularity. The only drawback to Ophelia is that the foliage is somewhat scanty, but other Rose foliage can be associated with it. Among red Roses General McArthur, Mrs. Edward Powell and Richmond are all satisfactory for indoor decoration; the two first need to be cut well before the buds expand, otherwise they are liable to lose their vivid crimson.

Mrs. E. G. Hill, pale pink with deeper reverse, is an exceedingly attractive flower in vases or baskets, for it grows on light sprays with the blooms not too closely nor stiffly set together.

The old favourite Mme. Abel Chatenay is still the most delightful of salmon pink varieties for decoration. Mme. Léon Pain, of somewhat the same shade, though quite one of the best Roses for bedding, always disappoints me as a cut flower; it is apt to look rather lumpy and heavy. The deeper pink Dorothy Page-Roberts is

GATHERED BEFORE INSECTS OR WEATHER HAVE DAMAGED THE ANTHERS, WHAT CAN BE MORE BEAUTIFUL THAN JOANNA BRIDGE?

orth growing for indoor decoration; its only ult is that it is not specially free flowering. Many of the bright yellow varieties, such as ayon d'Or, Golden Emblem and Christine, are o my thinking more lovely in the garden where ney are lit up by the sun than in the more subdued ght of a room. But Mrs. Wemyss Quin, though ot quite so brilliant a gold, grows on firm sprays nd is very useful for decoration; and the soft reamy yellow and white Teas, Alexander Hill Gray and Mrs. Herbert Stevens, for instance, nake very charming bowls or table decorations, specially in hot weather, when something cool n colouring is much appreciated.

The single and semi-single varieties, Irish Elegance, Joanna Bridge, Red Letter Day, K. of K. nd others, are all specially useful where a light ffect is particularly desired, but care must be aken to cut them while in the bud stage in order hat the beauty of their golden anthers may not have been spoilt by wind or weather. It is useful to grow in the garden one or two bushes of Rosa sericea, Rosa rubrifolia and Rosa nitida for the sake of their foliage, which blends well with some Roses that may be somewhat weak in this respect. The beauty of Rosa nitida lies in its autumn colouring; a deep brown Japanese basket arranged with some of its ruddy branches and berries with some sprays of the lovely Climbing Papa Gontier among them made quite an effective October decoration.

Two varieties with somewhat coppery-hued flowers, Lady Pirrie and Chrissie Mackellar, are specially charming in the cool weather usually associated with the autumn; for though the days this October have been wonderfully warm, yet the long cool nights have brought a depth and beauty of colouring to our Roses, which they frequently lack in the height of summer.

WHITE LADY.

DECORATIVE GARDEN ROSES

Dwarf Roses are chiefly valued for two qualities, their effectiveness in the garden and their beauty when cut. The gardener with limited space at disposal will want varieties which possess both.

IN his valuable work, "The English Flower Garden," which was first published almost thirty-seven years ago, Mr. William Robinson says in the chapter on Roses for the garden: "It is curious how few people seem to consider the value or beauty of a Rose as a growing plant in the garden. Nearly everyone, when supposed to be describing some particular variety of Rose, in reality describes an individual blossom."

This succinct remark is almost as true to-day as when it was written; this, in spite of the propaganda work done so ceaselessly by THE GARDEN and also, more recently, by the National Rose Society. Some of our nurserymen, too, make endeavour to impress upon readers of their catalogues that the end and aim of the Rose should not be to produce flowers for cutting. It seems, however, when considering Roses, so fatally easy to forget that the Rose is a woody perennial and consequently will need a permanent place in the garden. This being so, it is obvious that besides form, colour and fragrance, habit and constitution must be considered.

Of the diseases that vex the rose grower mildew is the worst, and to avoid this it is well to consider constitution. The Rose of weakly habit is always more liable to disease attacks. The nature of the foliage is also well worth considering, and it will be found that the varieties that have the stoutest leaves are less liable to attacks of mildew. With the introduction of so much Pernetiana blood in garden Roses a deal of the susceptibility to mildew vanishes, for the spores find it a difficult matter to find lodgment on the stout, shining leaves. Some rosarians view the Pernetiana strain with a certain measure of alarm, fearing that it will give rise to devastating attacks of black spot disease, but it is more than probable that these alarms are unfounded.

As garden Roses I must confess to a predilection for the sorts that produce rosy-purple young shoots, which are so effective in the spring and again in the autumn when the crop of blooms is lessening, giving welcome extra colour to the bushes. Of the varieties that are most noteworthy in this respect, and are also vigorous and otherwise satisfactory, the following are to be recommended: Mrs. E. Powell, Grace Darling, Lady Pirrie, Mme. Segond-Weber, Mme. Ravary, Duchess of Wellington, Earl of Warwick, St. Helena, Mme. Abel Chatenay, Lady Ashtown, Mrs. J. Laing, Gustav Grünerwald, Radiance, Frau Karl Druschki, Gorgeous, Rayon d'Or, Golden Ophelia, Christine, Golden Emblem, Irish Elegance, Joanna Bridge, Red Letter Day, K. of K., Chrissie Mackellar, Lady Pirrie, Rosa sericea, Rosa rubrifolia, Rosa nitida, Papa Gontier, Alexander Hill Gray, Mrs. Herbert Stevens, Clara Curtis, Mabel Morse, Florence Izzard, Duchess of Wellington, Lady Hillingdon, Ulrich Brunner, General McArthur, Hugh Dickson, Augustus Hartmann, Rayon d'Or, Christine, Golden Emblem, Ophelia, Duchess of Wellington, Lady Hillingdon, Ulrich Brunner, General McArthur, Hugh Dickson, Augustus Hartmann, Clara Curtis, Mabel Morse, Florence Izzard, Ravary, Radiance, Frau Karl Druschki, Mrs. Herbert Stevens, Molly Sharman Crawford, La France, Caroline Testout, Mme. Abel Chatenay, Lady Ashtown, Mrs. J. Laing, Gustav Grünerwald, Grace Darling, Lady Pirrie, St. Helena, Earl of Warwick, Mme. Segond-Weber, Mme. Ravary, Duchess of Wellington, Earl of Warwick, St. Helena

SOME LESS COMMON USES OF THE ROSE

Many gardeners have a horror of the stereotyped. They should find the following notes particularly interesting.

THE true Rambler type of Rose is never seen to better advantage than when growing, almost naturally, in a mixed shrubbery. It greatly appreciates the cool root run, and though unmanured and even unpruned, it will in such a situation grow with astounding vigour, flower with amazing prodigality, and in its graceful abandon, provide a feast of red beauty which makes the neatly trained pillar Rose look bourgeoise and uninteresting. The Wichuraiana hybrids are too rampant (and too ill-tempered when handled) for this purpose, though they are beautiful enough when smothering an old Apple or Pear tree. Such kinds, however, as Blush Rambler, Hélène, Paul's Carmine Pillar, The Garland—a Rose not properly appreciated—and, in sheltered situations, Claire Jacquiér, come to mind as specially suitable, while the brilliant Crimson Rambler can here give of its best without fear that its difficult colouring will offend.

Careful search in hedgerow or coppice will often reveal stout wild briars which have drawn up to a height of 9ft. or 10ft. These are worth the greatest care in lifting so that they may be used for budding. Weeping standards of this height are unprocurable from a nursery, but if the briars can be obtained they may readily be budded at home. The best of all Roses for these very tall "weepers" is Albéric Barbier, though the slower but stout-growing American Pillar also is excellent. Dorothy Perkins, Lady Gay, and their sports and varieties of similar habit, succeed better on legs not more than 7ft. high than on taller specimens, but the height of the stock appears to have no detrimental effect on Albéric Barbier. Once let this beautiful evergreen Rose really get hold, and it will so draw on the briar stock that the latter, in its effort to keep pace, will crack its bark and expand until it is unrecognisable as a briar stock at all. The stem of the stock will in a few years attain a circumference of 9ins. or even 12ins. American Pillar is slower and forms a less robust leg, but it is, none the less, a most beautiful and effective tall standard.

The Rose Dell at Kew Gardens has many admirers, and similar features have now been carried out in many private gardens, but, except for sentimental reasons, it is probably better to include other flowering shrubs—preferably evergreens—in such a planting, among which some of the Roses can make their way in the manner already described. This for the dell sides; for isolated clumps and specimens towards the centre of the ravine (or wild garden if the site be nearly flat) naturally grown bushes look better and here certain cultivated varieties are admirable. The early-flowering fragrant Conrad F. Meyer will occur to most people, though its white sport, Nova Zembla, is not as well known as it should be. Few people, however, seem to realise what a beautiful, ever-flowering, practically thornless bush Alister Stella Gray forms if untramelled by stake and tie. Its only pruning should consist of removing dead or worn-out wood. Then there is that grand old favourite, sometimes seen as a beautiful hedge, Grüss an Teplitz, and the lovely single Irish Elegance. In a sheltered corner Aimée Vibert is fine; so is the glorious Gustave Régis. All Lord Penzance's hybrid Sweet Briars are excellent. They earn their place thrice over with flower and hip to charm the eye and scent to gratify the nose.

A splendid Rose for such treatment, but one less often met with than it should be—which is strange, for it is an admirable pillar and hedge rose also—is Leuchtstern. Of all single Roses this surely is the most lasting. The petals never shed—they wither away on the trees. Where ample space is available, few Roses will surpass The Garland so treated, but care should be taken to avoid overcrowding or stakes will have to be used to allow passage.

Dwarfer Roses for the dell are the Austrian Copper and Austrian Yellow, Harrisonii and Mme. Eugène Resal, while innumerable species are available. To mention but a few, the fat hipped rugosa and its white form are valuable, though large growing. Where space is a consideration Rosa rubrifolia (ferruginea) with bluish-red foliage

ROSE UNA IN A NATURAL SETTING.

HELENE IN THE ROSE DELL AT KEW GARDENS

graceful sprays and bunches of crimson hips, ould be grown, and also the white-flowered . spinosissima.

R. lucida has beautiful foliage and rose pink ossoms, followed by light red hips, and in winter the glory of the ruddy naked wood. The newer osa Moyesii, with quaint fruits and vivid dark red blossoms, must not be overlooked. This makes a stout shrub 6ft. or 8ft. tall. Of the others, perhaps R. macrantha only is worthy of mention for this special purpose, but though beautiful, it is a rather straggly grower, so that if employed, ample space must be allowed for it.

T. H.

ROSE MARÉCHAL NIEL: AN OLD FAVOURITE

Where a roof climber is desired under glass, there is still no Rose to compare with Maréchal Niel whose advent created a sensation more than half a century ago!

IN the spring of 1870, when quite a small boy, the writer remembers going with his father one night to visit a friend who had in his greenhouse a wonderful Rose in blossom, a variety which had only been "out" a few ears, and was creating something of a sensation. s the night was cold we were told to make our ay to the greenhouse while the owner went for a ght. On opening the door we were immediately onscious of a most delicious perfume, and when he lamp was brought it revealed a roof simply rowded with glorious yellow Roses amid tender reen foliage. Fifty years after that first intro- uction to Maréchal Niel no other Rose has quite aken the place of this old favourite as a climber or the greenhouse.

It soon achieved a reputation as an indoor Rose, nd there were very few greenhouses indeed in vhich in the early 'seventies one was not to be ound. Its productiveness, its beautiful colour nd form, and its delightful fragrance earned for it nany admirers, and when it made its *début* in the ear 1864 it marked an epoch in the Rose world, rowds flocking to see it wherever it was exhibited. People who owned a greenhouse, on beholding it or the first time, were fascinated by its beauty. To see was to desire, and so it came about that for a long time Maréchal Niel held sway among Roses. From the commercial standpoint it must have proved a most remunerative sort to the distributors of those days; a brisk business in the blossoms was certainly done about Easter time among nurserymen, for it was no uncommon thing to see house after house with the roofs covered with flowers.

It had not long been introduced before it began to be whispered that it was subject to canker; that it was a mistake to keep it in the house all the year, and so it came about that after it had flowered, been cut back and the new growths made, one saw this prince among Roses turned out of doors for its annual airing, much the same as Azaleas and Camellias and other hard-wooded plants. That Maréchal Niel was, and is, liable to canker is a point which few who grow it to-day would dispute, but in the writer's judgment at any rate, it is largely caused through limited root-space and through over-feeding, especially where highly stimulating artificial manures are employed. In its early days many people grew it on its own root, and it was not long before the flowers were observed to be paler in colour than those on the plants originally sent out.

About this time some friends of ours who had suffered loss of plants through canker, obtained fresh ones, which were set in an outside border and the shoots taken through the wall and under the rafters, Vine fashion. This was followed by a larger output of blooms, and also involved more rigorous pruning after the flowering season. Another difficulty sometimes presented itself, in the debilitated state

of doors for open air treatment. It was generally believed that if plants were procured on briar stocks much deeper coloured flowers would result, but this could never be relied upon, although in some instances blossoms were certainly deeper in tint.

It cannot be said that Maréchal Niel was ever very popular for outdoor growing, although in certain sheltered districts to-day it is to be found growing on south walls. Its true sphere, however, is that of an indoor climber either in a house where little fire is kept or in a cold house. Outside, its flowers are not, as a rule, very freely produced or very good in size, form or colour; it is when given the shelter of a roof that one sees it at its best. Splendid examples are often seen in cold houses, particularly where there is convenience for drawing the lights down on the roof or for affording abundance of air in the summer. In a house where the conditions tend to dryness it not infrequently leads to shoots dying off, but this can be obviated to a large extent by syringing those newly planted. Another disease to which Maréchal Niel is prone is mildew; this often appears near the flowering period and is chiefly caused through ill-judged ventilation

Possibly to-day we do not set so great a value upon this sterling sort as did gardeners of fifty years ago, and this may be accounted for by the introduction of many other climbing subjects, but if we could imagine that Maréchal Niel had to make its entrance into the Rose world now would it not cause an even greater sensation than it did in the 'sixties? After all, it is unique, and one still often hears it said: "There is nothing quite like Maréchal Niel." For indoor cultivation it stands alone and has never been superseded. When well grown its half-opened buds are beautiful, its fully developed, deep yellow blooms magnificent, and its foliage is a perfect setting for both, leaving nothing to be desired. To crown all, it possesses the greatest charm which any Rose can have—delicious fragrance—so sadly lacking in many more recent introductions. It is seldom seen to-day in quite the form it displayed even twenty years ago, but it is to be hoped that it will be many seasons yet before all that remains of this grand old Rose is a fragrant memory.

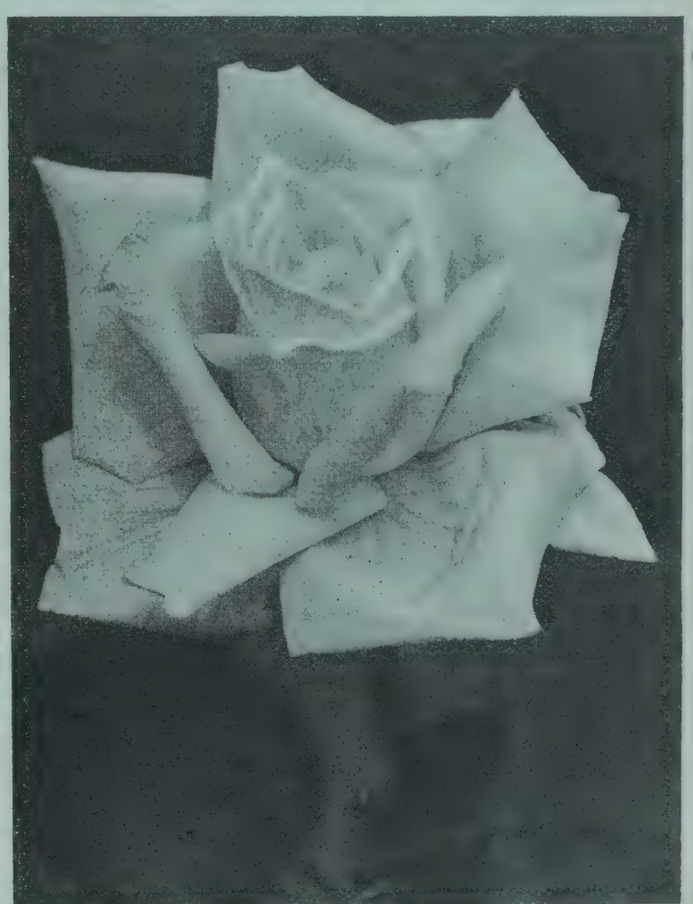
W. LINDERS [illegible]

The New Rose Phœbe

IT is always difficult to appraise the value of a new Rose from forced plants excepting for the particular purpose of pot culture or planting out under glass. The variety Phœbe, when shown at the Spring Show of the National Rose Society, was certainly superb in every way, and it will undoubtedly be in much demand as an indoor Rose. The exquisite form and size, also erect habit is all that one could desire, the dainty primrose colouring most lovely.

We should like to compare the Rose outdoors to a magnificent variety raised by Messrs. Alex. Dickson and Sons and named Kootenay, for we have an idea it will prove to be very much like it. Maybe there is a richer primrose shading, but our recollection of Kootenay is that Phœbe will run it very close.

Messrs. B. R. Cant and Sons have given us many good Roses, and we feel confident Phœbe will



THE NEW ROSE PHŒBE.

prove to be a valuable variety. The public will have to wait awhile, however, before testing its capabilities, as, owing to shortness of stock, it cannot be distributed until the autumn of next year.

FORTHCOMING EVENTS.

November 1.—Royal Horticultural Society's Fortnightly Meeting. Informal Conference on "Berberis" at 3 p.m. Royal Caledonian Horticultural Society's Meeting. St. Neots Chrysanthemum Society's Annual Exhibition

November 2.—Bridgwater, Wembdon and District Horticultural Society's Annual Show

November 3.—National Chrysanthemum Society's Show, to be held at the Royal Horticultural Society's Hall, Vincent Square, Westminster (two days). Taunton and District Chrysanthemum and Fruit Society's Annual [illegible]

November 4.—Leicester [illegible] Society's Show (two da[illegible]

NEW AND RARE PLANTS

THE meeting of the Royal Horticultural Society on the 18th inst. was the most generally interesting that has been held for a long time. It might almost be said that there was something of everything and that everything was very good. The collection of vegetables by Messrs. Barr and Sons and Messrs. Sutton's large exhibit of Cabbages, as well as several collections of Apples, were admirable. Among flowers Roses and Chrysanthemums were the principal features, though there were excellent Dahlias; and Messrs. Sutton and Sons displayed, in an excellent exhibit of Antirrhinums, the great advance that has been made in this most valuable flower. In the Roses by Messrs. B. R. Cant and Sons such varieties as Isobel, Henrietta and Padre were gorgeously coloured, and the two new sorts, the Rev. F. Page Roberts and Sovereign, were also much admired.

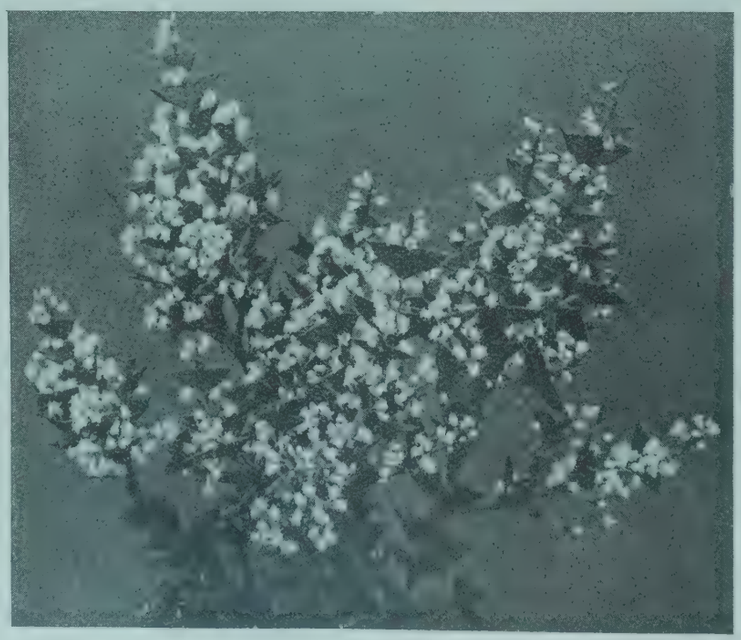
Schizostylis coccinea Mrs. Hegarty.—This is a deep pink coloured variety of the old scarlet Kaffir Lily. The spikes, which came from Clonbur, Co. Galway, were very vigorous, and the individual flowers were of good size. Award of merit to Mrs. Hegarty.

Dianthus Allwoodii Betty. — The Allwoodii are now well known by visitors to the shows, who appreciate their many merits. Betty is a dainty little variety, possessing two rows of petals regularly disposed. The colouring is milk white with a distinct carmine eye. Award of merit to Messrs. Allwood Brothers.

Chrysanthemum Little Dorothy.—This is a small spray-flowered variety of flattish incurved type. As a flower it is a poor thing, but its charm lies in the uncommon colouring—the bright mauve of the fully expanded florets and the pale golden centre. Award of merit to Mr. W. T. A. Roots.

Dahlia Tiger.—A Collarette Dahlia which evidently found the Joint Committee in a generous mood. The flowers seemed as though they had been unusually badly served in the post. The markings are very uneven, and the flower anything but beautiful. It is, generally, a broad white-lined scarlet, with a moderate collar. Shown by Messrs. Dobbie and Co.

A ROSE-PINK FORM OF THE KAFFIR LILY, SCHIZOSTYLIS COCCINEA MRS. HEGARTY.



A WELL FLOWERED SPRAY OF THE QUAINT COLLETIA CRUCIATA

Nerine Baracolle.—A handsome spike of deep ruby colour.

N. Mrs. George Barr.—This may well be termed a delicately beautiful N. Bowdenii.

N. Pink Beauty.—A stout, well furnished spike of very deep rose coloured flowers. These beautiful varieties were shown by Messrs. Barr and Sons, who also had a large group of these bulbous flowers.

Colletia cruciata.—A particularly well flowered spray of this still rather uncommon shrub was shown.

THE LITTLE GARDEN

THE lay-out and planting of the little garden is worthy of all the loving thought that can be brought to bear upon it. Mrs. Francis King's little book* is a transatlantic effort to throw light into dark places, and some of the problems, especially as regards planting, are peculiar to the western hemisphere, while certain of our difficulties are obviously less in evidence across the "Pond." None the less, this is a very helpful, if not too coherent, little book with considerable originality of thought. The book is excellently bound and printed, and there is a useful garden plan for a really small garden and eight other full-page illustrations which, unfortunately, are not, with two exceptions, as helpful as they well might have been. A pictured end planting for a small garden is, however, admirable, and "a latticed boundary fence" is excellent in design and well shown. The authoress has a great admiration for English gardens, as is shown by her frequent references to English books and garden designers. With an inconsistency deliciously feminine she inveighs against the marble seat one moment and illustrates one "well designed and well placed" the next. This serves effectively to show where several of the illustrations fail. The "seat" we in England should call a bench, and for its adequate disposal we must trust the authoress. It does not appear from the picture.

"Various English firms," we are told, "send out lists of extremely well designed tables, chairs, settees and so on," though there are "lapses." "In our own country," she says, "I can think of only one firm whose work is good, and their models are, if I am not mistaken, taken from English ones."

"The plan," she insists, "is the pivot of success." "It is lack of plan," yet more emphatically, "that is responsible for most that is ugly in America." For her plan she would turn to the garden architect, whom she regards as more important than the doctor. "In the latter case it is but the individual who suffers and who may die. In the former (where the garden architect has not been called in) it is *all who see* that suffer."

Perhaps English people have, on the whole, more artistic ability than their American cousins. They at any rate appear to show more aptitude at designing their own gardens, but a definite plan and a plan on paper, whether professionally drawn or not, is certainly highly desirable if not essential. Whole-hearted agreement is possible with her dictum (supposing a garden architect to be requisitioned at all) that where new building is contemplated he should be called in simultaneously with the house architect or even before him.

The would-be builder or new garden owner should find this book a profitable investment.

* "The Little Garden," by Mrs. Francis King, The Atlantic Monthly Press. $1 75c. net.

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

THE time certainly seems ripe for founding a National Society to watch over the interests Daffodils and to cater for the increasing appetite Daffodil connoisseurs, but I would go further d suggest that what we really want is a British ulb Growers' Association, to foster the home bulb dustry—Daffodils, Tulips and all other bulbs that n be and are grown to perfection in the British les; such an association, if well supported by owers, whether amateur or professional, would be immense benefit to the bulb growing industry nerally, and an annual, quarterly or a monthly urnal on the subject of bulbs, giving the Daffodil ecial attention, would be of the greatest interest id help to all the keen amateur growers.—J. A. WATTS.

AM indeed delighted to see, in your issues of October 1st and October 15th, the letters from Ornatus" and the Brodie of Brodie regarding National Daffodil Society. By some misadven- ire I did not receive my copy of THE GARDEN or October 1st till the same day as that for the 5th reached me, else I should have recorded my upport of the idea sooner. I think we Daffodil eople ought to be ashamed that our flower has ot the support of a National Society. It is one f the comparatively few flowers which are, beyond ispute, everyone's flowers, and it is admittedly he queen of early spring flowers, so surely it is orthy of the very best that its devotees can do or it. The object of such a society would, of ourse, be still further to advance the popularity nd promote the development of the Daffodil. t may be argued that the existing societies are oing this, and doubtless they are, to the best of heir ability; but to my thinking one of the nost important factors in achieving the aforesaid bject would be the publishing of a thoroughly omprehensive year book, which none of the xisting societies can afford to do. Such a book hould contain full notes on any new discoveries egarding diseases and their treatment, cultural letails, notes on hybridising and the rearing of seed- ings, reports of shows, with descriptions and photo- graphs of the best new seedlings or any varieties f outstanding merit shown and all other matters f interest. Such a publication would be eagerly welcomed in New Zealand, where the cult of the Daffodil is being pursued with the utmost keen- ness. Like the Brodie of Brodie, I have heard bitter complaints from correspondents in New Zealand (and at home for that matter) about the dropping of the R.H.S. year book. They counted so much upon it for keeping them in touch with what goes on at home. Incidentally, the year book should contain full notes on shows in New Zealand or any other Daffodil centre, with photo- graphs of their best flowers. By such means interest would be much stimulated everywhere.

The idea of a National Society should have the cordial support of both hybridists and trade growers from the standpoint of the financial prosperity of the flower. There is little doubt that shows held under the auspices of a National Society would be more largely attended than existing shows if only on account of the greater membership, consequently exhibitors would be put in touch with a larger buying public. Members would doubtless join from distant parts for the sake of the literature published by the society. It would thus be discovered, in all probability, that the Daffodil has ardent friends in unexpected and widely scattered parts of the globe; for example, not very long ago a quite valuable little lot of my book would be the medium of information and exchange of experience of culture under the varied climatic conditions experienced by such outlying lovers of the flower. New centres of interest might thus be established in many places where the Daffodil would thrive but has not hitherto been grown, and consequently new outlets would be found for our bulbs. In short, I think a National Society would be a great advertisement for all growers. This sounds rather unnecessary, but a little reflection will show that the develop- ment of any flower depends largely on its success as a marketable commodity, as there must be very few, if any, hybridists so favourably circum- stanced that they could afford to go on raising seedlings on any considerable scale if they had little hope of getting any sale for them. Con- versely, it should be borne in mind that the interest and popularity of a flower, nowadays more than ever, depends largely upon its continued develop- ment and improvement.

The publication of the Rev. Joseph Jacob's note on the National Rose Society in the same issue of THE GARDEN in which the Brodie of Brodie discusses the question of a National Daffodil Society is quite a helpful and instructive coincidence, giving us as it does some idea of the size, strength and usefulness of a National Society. He tells us that the membership is about 7,000, and that 950 joined during the past nine months; while the membership of our Midland Daffodil Society, which is the principal Daffodil society, is only about 100! I think Daffodil lovers at all events will agree with me that, with all due respect to the Queen of Flowers, she is not seventy times more beautiful and more important than Mistress Daffodil! so that we might reasonably expect to have a comparatively respectable membership should all concerned agree to form a National Society to do her honour.

In conclusion, I would add that, like the Brodie of Brodie, I think if other societies agree, that the Midland Society is the best adapted to resolve itself into a National Society. It has the necessary machinery already in operation, it is splendidly staffed, and a spirit of the utmost enthusiasm is strong among its members. I imagine it only wants the greater financial support which a larger membership would bring to enable it to flourish exceedingly a a National Society and very greatly —GUY L. WILSON.

HOT-WEATHER PLANTS.

AMONG the plants that have luxuriated in the fine hot summer I think the hardy Nerine Bowdenii and Sternbergia lutea deserve mention as much as the Belladonna Lily. The scarlet Salvias and the old Convolvulus major, or, as it is now termed, Ipomœa purpurea, are still flowering with unusual freedom, but perhaps the finest display of all in this mid-October is made by the Pampas Grass, Gynerium argenteum. This has indeed revelled in the long spell of heat, and has certainly not been affected adversely by drought. I enclose a photograph of three clumps growing in the old moated garden at Hailey Hall, belonging to Mr. C. Yates.—H. H. WARNER.

THREE VERY FINE CLUMPS OF PAMPAS GRASS.

THE BELLADONNA LILY.

WITH regard to the flowering of Amaryllis Belladonna this season, I do not altogether agree to your Editorial note that the great florifer- ousness of the Belladonnas this summer is due to the remarkably sunny season and heat that we have just been through. Surely we must go further back and consider the weather conditions that prevailed in the early part of the year. Is not the flower-bud of all bulbous plants, par- ticularly the Amaryllidaceæ, formed in connexion with the leaf development, and when the leaf growth dies away the whole bulb is at rest for varying periods according to circumstances. Now the Belladonna Lily is hardy anywhere in the South and Midlands, but as a general rule not very free flowering except in Cornwall and in the South of England, or in particularly favoured positions. Is not this due to a full and perfect development of the foliage, and as the growth commences almost in mid-winter and continues through the spring, the weather then is the all- deciding factor? I believe the excessive mildness of the last two winters, followed by particularly favourable weather in April and May, accounts for the abnormal flowering. In Cornwall in spring the vigour of the healthy foliage seen in so many gardens is due to the mild climate, but in the colder areas of England the foliage is frequently damaged (and hurt) by the frosts and cold winds Such conditions as prevailed last winter and spring were responsible for a fine foliage development and with it the formation [illegible] R. W. W.

is in leaf is well taken. Obviously, if the foliage, when in growth, suffers damage it will militate very strongly against its producing flowers. The proper ripening off of all bulbs is also, "R. W. W." will grant, important. We may take it, then, that to the climatic conditions of the present year (1921) is to be attributed the wonderful floriferousness of the plant this autumn.—ED.]

IN recent issues of THE GARDEN you have published several letters on the abundant flowering of Amaryllis Belladonna this year. A small colony in my garden which was planted two years ago has not only produced a number of fine blooms, but a quantity of the flowers have set seed, which is already ripe. I propose sowing the seeds at once in pots in a cold frame, but they will probably take four or five years to attain flowering age. The seeds vary a good deal in size, and are semi-transparent, either cream coloured or flushed with red.—NORMAN G. HADDEN.

AS so many letters have appeared in your paper as to the prolific flowering of the Belladonna Lilies this year, grown under a wall or glasshouse, it may be of interest to record similar profusion of bloom in the open border of a garden some 200ft. or so above sea level; and, further with their forming seed capsules, which—although I have grown these bulbs for many years in a warm Devon garden as well as in the Isle of Wight—I have never before seen. They are doing the same in a neighbouring garden, where also the white Jasmine (officinalis affinis) is fruiting in panicles. Is it good practice to leave Belladonna Lilies forty-eight years without dividing? From my own observation I should expect they are a conglomerate mass of bulbs, the majority of which are unable to blossom. Yesterday I saw a clump of them pushed up out of the ground by those below, crying for freedom.—WESTERN WIGHT.

AMARYLLIS LUTEA.

THIS lovely plant, better known as Sternbergia lutea, has flowered well here this autumn. Well ripened by the hot sun-heat against a wall, it has sent up a number of Crocus-like bright golden yellow flowers. The leaves are fleshy and dark green in colour. It is a native of South Europe and Palestine, where it is abundant in the vales. Many botanists agree that it is the plant referred to in the Bible—"Consider the Lilies of the field, how they grow." It is difficult to keep and suffers from a succession of damp seasons. When seen flowering in sunshine it is easily understood that "Solomon in all his glory" would require all his time to surpass it.—W. P. M., *Glasnevin*.

EARLY FLOWERING OF IRIS UNGUICULARIS.

ON October 5th three flowers of the pale blue form pushed through the grassy foliage. The following day the white form flowered and continues to send up buds. This is the earliest record of this plant flowering here. We must hope it does not mean it will be out of flower in January and February, when it is one of the most welcome and reliable of spring flowers.—W. P. M., *Glasnevin*.

I WOULD like to know if others have had the same experience as I have had in gathering on October 13 a handful of Iris stylosa. The blooms are nearly twice as large as usual and untouched by slugs. Though said to flower in November, I have never before had them in blossom until near February. I must confess to a little annoyance with this peerless winter gem, that it should strive to compete in colour with the flaunting Michaelmas Daisies. I gathered them quickly so that they might not feel any slight and could reign supreme in a room unadorned with any other shade of mauve.—JANE C. CUMMINS, *Co. Cork*.

YESTERDAY (October 10) I cut four perfect Iris stylosa (bother their new-fangled name!), and I want to ask you or any of your correspondents whether they have had a similar experience in this extraordinary year.—REGINALD RANKIN.

THE COLLARETTE DAHLIA: A NEW BREAK.

IN the opinion of some growers the new Dahlia Novelty should not be classified with the ordinary forms of the Collarette type of Dahlia. There is little doubt that the older florists would have quickly consigned this new sort to the rubbish heap, a not uncommon practice with them when confronted with a new flower which did not fulfil the rigid standard imposed in their day. Because of this short-sighted policy many beautiful garden

COLLARETTE DAHLIA NOVELTY.

plants and highly decorative flowers have been lost to cultivation. The modern florist is, fortunately, not so exacting and so is less disposed to make these unfortunate mistakes. Because of this more sensible view point there is constantly being added to the lists of plants suitable for garden embellishment and for cut flowers, beautiful novelties with flowers varying in form and character from the generally accepted type. The newer forms often have a potential worth as the parents of a new strain, and for this reason deserve encouragement. The Dahlia under notice was recently submitted to the Joint Committee of the R.H.S. and National Dahlia Society, and was regarded with sufficient favour to be selected for trial at Wisley next season. The properties of this new flower that make it so promising are these: Unlike the ordinary forms of the Collarette Dahlias, it has some four rows of broad florets of a most brilliant crimson colour and a golden disc, the latter surrounded by a rather small golden yellow collar. The collar is not particularly good, and falls short of what a good Collarette Dahlia should possess; yet it is sufficiently striking to make an effective contrast with the rich colouring of the broad ray florets. The great advantage possessed by flowers of this new form is that in a cut state they will travel well and not get damaged, as too often happens with the ordinary type of Collarette Dahlia, as well as the large, heavy flowers of the Decorative and Pæony-flowered types. For this reason there may be a future for such flowers for market purposes. Comparatively few Dahlias are sent to our various markets, largely because they so readily suffer damage in transit. Novelty was raised by Messrs. J. Cheal and Sons, Limited, Crawley. It is to be hoped they will continue to prosecute their good work in this direction, as there is little doubt market growers and others would be pleased to cultivate Dahlias as highly decorative and as easily transported to a distance without damage. The plant attains a height of about 5ft., carries its flowers on erect stems, and has a good constitution.—D. B. C.

OUR WONDERFUL SUMMER.

SUMMER is still here. In spite of the official intimation of her death on September 24 she is alive and well. Indeed, she has barely begun to shed her garments. Only the few falling leaves and the autumn tints tell us that winter is not far ahead. The well tended garden is still a riot of flowers and sweet scents. The warm afternoon air is filled with the drowsy hum of insects. The smell of the newly mown lawn reminds us of the cricket pitch we prepared in May. Which, again, reminds us that the cricket season might be extended—in this weather—for at least another month. If we in England could always depend on a summer like this what a difference it would make! Perhaps, at last, we should be able to give up our conservative habit of dressing by the calendar and decide to dress by the weather. Men would be able to set aside their unhealthy drabness and emulate the women in the lightness of their summer clothing. Their courage might fail to reach the height of cretonne, but the sensible washable white drill suit would be more than possible. Tempers would be turned to the glory of the elements and our northern coldness would gain something of the warm vivacity of the south. We should demand two seaside holidays a year and a garden and lawn to every house. The water rate might go up, but the poor rate would surely go down. We should become an open-air nation and the doctors would have to reduce their fees to get business. What has caused this wonderful change? Is it a mere passing freak of Nature or has it come to stay? Has the Gulf Stream changed its course or is it due to Pons Winnecke? Whatever the cause, we can glory in the result and hope and pray that such climatic benignancy may be bestowed upon us for ever.—A. PERCY GAMBLE.

A YEAR that has smitten the Mossy Saxifrages hip and thigh with a great slaughter and reduced the great saucers of the Carpathian Bellflower to things of no significance, has at least been kind to the Californians. Never before has the Zauschneria been so splendid. Week after week its spikes of brilliant scarlet have stood like a bush of flame among the dead and dying, and now for the first time in its life it has developed seed, for though in a warm, sheltered position on well drained rockwork this plant is perfectly hardy, it does not normally ripen its fruit with us. Zauschneria californica belongs to the Onagraceæ, and its seed closely resembles that of the Willow herb of our hedgerows, being similarly assisted to disperse by a tuft of silky hairs, which cause it—after the splitting of the capsule—to be blown away by the wind. Equally fine has been the

fornian Poppy (Romneya Coulteri) which, ead of lingering in flower till the first breath of ter, has this year set its yellowish brown sules, after producing an unusual quantity of great white golden-eyed flowers. Some others des the Californians have prospered. Plumbago pentæ, hailing from Shanghai, has never been arly or so blue; neither has Mussin's Catmint n more rampantly luxuriant; while among native plants a sprig of Cornish Samphire, cked years ago from its granite bed on the Land's l, which in the cold Fenlands of Eastern England ally flowers just in time to be cut down by the liest frost, has this year formed a score of its lowish green umbels, and is now ripening fruit abundantly as any umbelliferous weed of the al flora.—H. MALLYAN THOMPSON, *Ely*.

YUCCA WHIPPLEI.

HE article and illustration of the above in your issue of September 10, page 455, brings to mind fact that it is a native of California and is dely distributed along the Santa Barbara untain range, not more than six miles from where write. I should like to transport your readers this spot where large numbers of Whipple's cca may be seen in their glory during April and ay. Seed pods are often abundant and evidently ey have for years re-seeded themselves all over e mountain sides, which, by the way, are very cky. They have such companions as Heteromeles butifolia (the Californian Holly), Ceanothus yrsiflorus, Rhamnus californica and Quercus rifolia.—ALBERT R. GOULD, *Santa Barbara, alifornia*.

RHODODENDRON FALCONERI AT FLOWERDALE.

YESTERDAY but few knew Flowerdale in Gairloch, Ross-shire, but as a name to-day it is nown to half the civilised world, and minutely so, or quite a covey of extremely active pressmen have overed around seeking anything to write about it. Evidently none was a florist, otherwise he might ave woven a delightful story round the Rhododendron Falconeri which adorns a corner of the gardens. The mansion house of Flowerdale, the property of Sir Kenneth Mackenzie, Bart., owner of many square miles in this wild part of Scotland, ies snugly at the foot of pine clad mountains, within a few hundred yards of the shores of the Atlantic. The climate is mild the season round, but, unfortunately, most abominably wet, the rainfall being over 60ins. The gardens can claim but little interest from a horticultural point of view apart from this fine specimen of R. Falconeri. I have visited the district for many years now and seldom fail when passing to slip in and doff my cap to it. The shrub occupies a sheltered corner of a most sheltered garden, flanked by a high wall, behind which tower stately Lime trees. The trunk forks practically as it leaves the surface of the soil, at which point it measures 48ins. in circumference; the forked branches at 18ins. from the ground measure 33ins. and 12ins. respectively, above which, however, branches spread out measuring over 16ins. in circumference. The spread of the branches at its widest part is 22ft., while it measures some 70ft. in circumference. I had no means of measuring the height accurately, but it certainly is not less than 20ft., I should think considerably more. I counted between sixty-five and seventy spent trusses which, unfortunately, had not been removed. The head gardener, Mr. Murdo McIver, who very naturally takes no little pride in his possession, informed me that in the great gale of March 16 last it was practically stripped of foliage (though it is hard to see where the gale could enter the gardens), and that the blooms when they came out looked rather odd on the naked branches. Fortunately it is again fairly well clad though the leaves are much smaller than usual; this I may add is not owing to drought, for it has been a very wet season here. Mr. McIver in giving the plant a handsome present of spent manure and leaf mould is doing all he can to bring it round to robust health again. I can get but little information as to when this Rhododendron was planted, but it seems to have occupied its present position for some seventy years. From that I gather that in all probability it was raised from seed sent home to the then Sir Kenneth Mackenzie, Bart., who was much interested in horticulture, by Hooker, who was then (1847-51) in the East. About the same time Campbell of Stonefield in Argyllshire grew his plants—FORMAKIN, *N. B.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Cannas, although not harmed through their foliage being blackened by cold winds and frost, have passed their best, and should be lifted and placed at the foot of a wall or building for a few weeks previous to placing in quarters to rest, which may be a shed or cold greenhouse so long as hard frosts are excluded.

Gladioli and Choice Montbretias, too, should now be lifted, thoroughly dried and stored in sand or suspended in bags from the roof of a frost-proof shed. Where large quantities of the more common Montbretias are grown in masses for autumn effect and decorating it matters little, in warm soils, whether lifted or not each season. Every second or third year will be sufficient, provided some manurial assistance is given during the growing season.

Alterations.—This somewhat elastic term may mean anything from the addition of a few stones to a rockery to work lasting right through the autumn and winter months. The main point in each case is to have a definite plan in view, and preparations so made beforehand, if possible, that there shall be no waste of labour or material once the work is in hand. It is always advisable to rush as much as possible of the new work through before Christmas, for climatic conditions are much more uncertain afterwards, and, moreover, by getting it finished so that the weather may play upon it a little, some of the newness is worn off by the time newcomers begin to grow and flower.

The Kitchen Garden.

Tomatoes growing for winter supplies need careful management owing more especially to the less sunshine and shortening days experienced. Maintain at all times a fresh, buoyant atmosphere by a circulation of heat in the pipes and by keeping, whenever possible, a little air on in the house. Water carefully, and err on the side of dryness rather than otherwise, and use manure only when plants are swelling their fruits. When necessary, the flowers should be pollinated during the morning. To provide plants for early fruiting next year, seed may now be sown thinly in well drained pots or pans of light soil in a temperature of about 60°.

Celeriac, when sufficiently large, may be lifted, and after trimming up the leaves and fibres may be stored in sand, to be drawn upon as required. Another and perhaps more general practice is to mould up the plants to prevent injury from frost, and leave them in the ground like Celery. The lifting of other roots should now be pushed ahead, as, with the exception of those intended to remain in the ground during the winter, no further good will accrue to developed roots of Carrots, Beetroots, etc., by being left longer in the ground.

Asparagus.—The plants having ripened, the stems should be cut off and the beds be thoroughly cleaned. Afterwards lightly fork the surface previous to giving a dressing of short, well rotted manure to remain on for the winter, unless on cold soils, when it is of doubtful benefit. On such soils see that the alleys are dug deeply for the winter, to assist in the more efficient drainage of the beds.

Hardy Fruit Garden.

Raspberries.—The ground for a new plantation should be deeply dug, and if of poor quality, have a liberal quantity of well decayed farmyard manure worked into it. Arrange for the rows to run north and south, if possible, about 5ft. apart, and root stocks from 20ins. to 24ins. A position where a slight shade passes across the plot during a part of the day is beneficial, especially on light soils, as it helps somewhat to prolong the fruiting season. Where late Raspberries are in request a few rows of the autumn-fruiting varieties should be added. After planting, all the canes should be cut down to within 6ins. or 9ins. of the ground for first season, and afterwards mulched with some strawy manure for winter.

Plants Under Glass.

Liliums.—As bulbs of the longiflorum type come to hand they should be potted as soon as they have plumped up and indicated root action. The bulbs should be placed somewhat deeply in the pots to allow of future additions in top-dressings. Good drainage is absolutely essential. After potting, plunge the pots in a cool frame and withhold water until growth commences.

Cyclamen sown as advised will soon be ready for a move. This may be into small pots or shallow boxes, as most convenient, using a nice light compost. Keep the young plants in a fairly moist growing atmosphere close to the glass in a temperature from 55° to 60°.

Eucharis.—Where these plants are throwing up their flower-spikes more water will be necessary at the roots, coupled with the maintenance of a more growing atmosphere. Healthy, active plants should be occasionally assisted with weak liquid manure. In some gardens this Amazon Lily is confined to one house throughout the year, but better returns are probably obtained from small batches of plants by introducing a few pots at a time into warmer quarters for flowering. I have known large specimens, which have been in the same pots a number of years, to flower three times during the year, not necessarily the same bulbs each time. H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Late Cauliflowers.—Early frosts are now with us, so where there are still good heads of Cauliflowers fit for use they must be looked over regularly and protected by breaking a few leaves and bending them over the flower. Should an open shed or airy cellar be available a number of plants may be pulled and hung up by the roots, when they will be found to keep fresh for several days.

Celery.—In most cases the final earthing up will now be due. It should be firmly banked and put in order for the winter. Where both the red and white varieties are grown it is advisable to use the white first, as it is noticeable how much better the red sorts stand during a severe winter.

The Hardy Fruit Garden.

Gooseberries.—Where it is intended to plant anew, from now onwards until the end of November will be found a suitable period provided the weather is fine. See that the ground is well prepared by trenching and liberal manuring. When once the bushes are established deep digging in their vicinity must be barred. Plant firmly, but not too deeply, taking care to spread out the small fibrous roots. Allow 6ft. between the rows and 5ft between the plants in the row. For early sorts Golden Lion and Early Sulphur are favourites, while for jam-making purposes Warrington (red) retains its popularity. Whinham's Industry is a fine large red and a late keeper. Among other varieties to be commended are White Eagle, Whitesmith, Glenton Green, Keepsake and Langley Green

Red and White Currants may be planted in similar fashion to Gooseberries. We find Samson's Red one of the best varieties, the fruits being of large size and of rich colour. Raby Castle is a good late sort, while White Dutch is very sweet and one of the finest for dessert

Raspberries.—Where plantations of these are spent and unprofitable, opportunity should now be taken to plant afresh. Failing a new site, the old canes should be grubbed out and the ground put into good condition by the addition

of burnt refuse, wood ash, well rotted manure, leaf-mould and some gritty material such as road scrapings or sandy rubble. Raspberries are essentially surface-rooting plants and enjoy a free root-run. The fibrous roots should be disturbed as little as possible by digging, but a generous top-dressing of farmyard manure should be added every spring, as this not only acts as a stimulant but helps to retain the moisture and keeps the roots cool during hot weather. In planting the canes should be in rows 5ft. apart and 2½ft. between the plants in the row.

Strawberries.—Where new beds were made some time ago they should be looked over and any runners removed. Run the Dutch hoe between the rows and so encourage growth while open weather prevails.

Plants Under Glass.

General Work.—Extra care must be exercised from now onwards throughout the winter in regard to watering, more especially among plants that are of a soft-wooded nature. Syringing in stove and various other plant houses may also now with advantage be reduced, spraying overhead only in the mornings after the temperature has risen a little.

Freesias.—Early batches will now be growing freely, so should be kept as close to the glass as possible. A medium temperature suits these fragrant subjects best. Give an occasional dose of weak liquid manure to strengthen the growth.

The Flower Garden.

The Herbaceous Border.—Where it is convenient to plant the hardy border now, the work should no longer be delayed. Lift and label the various plants, adding the approximate height of each, and place in temporary quarters until the borders are prepared. Trench the borders 2ft deep and enrich with well rotted farmyard manure, also work in a quantity of decayed vegetable matter from the compost heap. When planting it is best to regulate the size of the different groups according to the length and width of the particular border. Naturally the large border lends itself to producing the most effective display, but by careful and judicious arrangement smaller borders can be made both effective and interesting. In dividing the roots pull them asunder and so retain the fibrous roots so essential to the welfare and quick recovery of the plants. The rather ruthless method of dividing the old stools with a spade is to be deplored. The better plan is to use two digging forks, placing them back to back in the centre of the plant and then pushing them apart. In this manner the fibrous roots receive the minimum of damage. Protect the crowns of Delphiniums, Pyrethrums and Gypsophila by placing coal ashes round them, as slugs have a special fondness for these plants.

James McGran
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock.

THE MICHAELMAS DAISIES

Impressions to date of some of the newer varieties and hints on their culture and disposal

MY Michaelmas Daisies have surprised me. After so many had fallen victims to mildew I never expected the show we have had this autumn. Mr. Shoosmith's criticisms of my comments on some of the Aldenham varieties appeared at the right time and led me again to take stock of the twelve of which I wrote last December. On the whole we agree. My three favourites this autumn are Louvain, General Leman and King of the Belgians. From seventh or eighth the last named has gone up to number three. What is the matter with it that it should be so roundly condemned? Its worst fault, if it is a fault at all, is that the yellow disc is as often oval as round. It is true, too, that its individual blooms are no larger than those of that fine standard variety Climax. As Emperor among Daffodils, Gloire de Dijon among Roses and Nelsoni among Lachenalias, so is Climax among Novi-Belgii Asters. Perhaps Mr. Shoosmith's visitor had no other variety but this in his garden? Even then I fancy he must want a pair of spectacles if he saw in King of the Belgians and Brussels simply replicas of old varieties. King of the Belgians has been a magnificent success this year at Whitewell. As I think of the great waving masses of pink-toned lavender which it gave us, I am at a loss to imagine what could be more beautiful. I have looked at Climax; I have looked at Attraction—if I mistake not, the two very best of the old ones in this particular colour; I have looked at Brussels with its dainty lavender blooms; I have compared all four together, and I am prepared to go "nap" on King of the Belgians. The oval centres are no detriment whatever to its effect in a garden. One does not notice them any more than the slight reflexing of the ray florets.

Louvain has surpassed itself. The tall plants with their main stems and arms wreathed with pale warm pink flowers, whose yellow discs never become dull carmine but remain yellow to the end, were tremendously pleasant to look upon. It is the head Aster here this year. General Leman, however, ran it very close. This variety again asserted itself and put both Brightest and Best and Mons into the shade. It is altogether a far more attractive shade of rose than either of these, and no variety in my little collection displays a greater wealth of bloom. The pink of Marne is a real pink, and if every plant had not been so full of what I cannot help comparing to the witchs' brooms in a Birch tree it would take a high place, but as it is the patchy look which they cause takes away all its charm. Brightest and Best is tarred to a lesser extent with the same brush. Mons, which had it last year, seems to have outgrown it. It has been one big mass of bloom and is second only to General Leman. There are three of these rosy coloured varieties in a small collection, which was another welcome and much appreciated gift from Aldenham House this spring. They have been grown in another part of the garden where the Asters have not done as well as I should like them to have done; but, making every allowance, even Goldfinch, which seems about the best of them, will not be the equal of either General Leman or Mons. In this new collection there were representatives of the ericoides, vimineus and cordifolius sections. In this last-named section we get most attractive varieties. Who does not know and appreciate Photograph? Bo Peep and Comeliness might in happier summers become the rivals of that fine old stand-by. At all events I do not think I have ever seen a Michaelmas Daisy as full of bloom as the last named. The small pale mauve flowers were so thick on the branches that the whole plant looked like nothing so much as a conglomeration of pale mauve ostrich plumes. Perry's White has flowered at Whitewell for the first time this autumn. It will take a good one to beat it. One satisfactory feature about it is that its flowers do not flush, as is the way with some white varieties, but continue white all through their life. Again, after careful and continuous examination, I did not see any blooms show any symptoms of "doubling"—surely another point in its favour.

And now for a word about growing Michaelmas Daisies. After once again seeing my own and comparing them with what one so frequently sees in other people's gardens—a sheaf of green foliage with some flowers on the top, two or three more or less ugly and far too prominent sticks on the outside connected together by some sort of tying material and just possibly a stray spray of bloom sticking out here or there as much as to say "No, I won't be conventionalised and regulated I won't bloom as I am told." Why do so many of us grow Michaelmas Daisies on the principle that Sir Herbert Maxwell laid down in those interesting articles about trees and timber, as if the object to be attained was the production of straight, tall, branchless trunks or stems? Believe me, the principle which is good for a forest of Oaks or a coppice of Larch is wrong when applied to an Aster. We do not grow *them* for timber. Seeing is believing. I wish readers could have seen the great sprawling sprays of bloom, throwing themselves about in happy confusion, now taking arms one with another, now as it were standing on their heads. Big Louvain cheek by jowl with smaller Blue Gem, and Brussels supporting her beloved Cardinal Mercier. Oh, what a jolly jumble! A "Hi diddle diddle the cat and the fiddle" medley! For heavy rain had come and, like some bonesetter who performs operations from which orthodox surgeons shrink, it has made a "jolly good job" of the bed. How should Michaelmas Daisies be grown? On the one-stem principle. We grow them for garden decoration, so the last thing we want is the tied-up, stiff sheaf of greenery with a mop head of flowers. Yet possibly Mr. Shoosmith's visitor used to grow his old varieties in this way, as so many of us have done in the past. We know a better way now to get the best out of our plants.

At the end of February or early in March, according to the season, when new basal shoots appear above ground, as many as are required should be cut off, if possible with an odd rootlet or two, and put in 3½in. pots. These should then be placed in a cold frame and the lights kept fairly close for a week or so until growth starts again, when in a short time the lights may be taken off altogether or the little pots put outside. In early May the plants, which will consist of one stem only, may be planted out where they are to bloom. Beds or small positions should have been double dug in preparation for them, but on no account must much manure be used. Staking must be attended to as soon as it is necessary. The above is an infinitely better method of increase than the ancient way of chopping up clumps with a spade. Joseph Jacob.

TRIALS AT WISLEY

The following awards have been made by the Council of the Royal Horticultural Society to the undermentioned plants after trial at Wisley.

French and African Marigolds.

Award of Merit: Legion of Honour, sent by Dobbie.

Highly Commended: Silver King, sent by Barr; Lemon Queen, Dobbie; Prince of Orange, Dobbie.

Commended: Dwarf Gold-Striped, Barr; Golden Ball*, Watkins and Simpson, R. Veitch; Pigmy Golden*, A. Dickson; Extra Dwarf Orange*, Barr; Pigmy Canary Bird, A. Dickson; Tall Orange, J. Carter; African Primrose, Barr; Orange Prince, Webb; Prince of Orange, Dickson and Robinson. Those marked * are identical.

Perennial Lobelias.

Award of Merit: Coccineus, sent by B. Ladhams; Shirley Beauty, B. Ladhams.

Highly Commended: Attraction, B. Ladhams; Southampton, B. Ladhams; Mrs. de Bunsen, R. H. Bath.

The report of Dahlia trials is unavoidably held over.

THE BEST OF THE 1919 NEW ROSES

HAVING now had a full season's growth one is able to pass a general verdict on the new Roses produced in 1919. It should be really 1920, but an amateur's purse will not run to paying the high prices asked for the newest Roses, so one must be satisfied with the results, even though a year behind the times. In all sixty-nine new Roses of 1919 were tested, of which seventeen were produced in Great Britain, fifteen in Ireland, eighteen in France, fourteen in Holland, two in Jersey, and three came from across the "Herring Pond." Of the forty-seven Hybrid Teas and ten Pernetianas many of them were not of very marked or novel merit, and will probably find their way to oblivion within a year or two.

Of the bedding varieties three stand out well from their fellows: Messrs. B. R. Cant and Sons' Covent Garden, is a beautiful deep crimson with a long pointed bud. It is a good grower, keeping a nice shape, blooming right into the autumn, and apparently immune from disease. Secondly, Mrs. H. Morse, from Messrs. S. McGredy and Son, which was well shown at all the Rose shows this season is a very free bloomer of pale rose colour, and most fragrant. Thirdly, Mr. Walter Easlea's Lulu, not quite so vigorous a grower as one could wish for, is a pretty novelty, giving a mass of continuous bloom; equally profuse in autumn as in summer. This should make a charming dinner table Rose, being not unlike Irish Elegance in colour, though a little lighter.

From France came two excellent bedders, M. Pernet-Ducher's Jean C. N. Forestier, which deservedly gained the Bagatelle Prize in 1919. Its Herriot progenitor is evident, but it is a vast improvement on its parent. An excellent grower, with bright lake to orange blooms, it has plenty of them, although they open somewhat flat. A creamy white Hybrid Tea, Louise Criner, produced by M. Chambard, has made a good impression here. A *clean* Rose with long pointed buds opening out to a white flower just sufficiently toned down to take off any paper whiteness. It has a nice habit of growth and blooms are held erect on long, straight stems, not unlike our old Tea friend, Mrs. Herbert Stevens, but more lusty and more life in the colour of the bloom, due, no doubt, to the Louise Crette blood in it.

Two Dutch Roses are of exceptional merit. (With all these foreign varieties, much as it behoves us as rosarians to support home industries, we must also see what can be produced abroad in the way of new Roses). Miss C. E. van Rossen, from Messrs. Verschuren and Son, is a fragrant dark red Rose with Red Letter Day blood. Semi-single, not a big grower, it has plenty of bloom throughout the season, and is particularly pretty in the bud state. Hortulanus Budde—yet another terrible name—from the same firm, is a bright red semi-single Rose hybridised from General McArthur and Mme. E. Herriot. A profuse bloomer and excellent also in autumn.

The most striking U.S.A. production for the year is Messrs. E. G. Hill and Co's Mme. Butterfly, a glorified Ophelia. It is more vigorous, and the blooms are deeper and brighter in colour than Ophelia.

For exhibition Roses 1919 was not a prolific year, the two best exhibition varieties admittedly being Messrs. McGredy's Edel, a weighty bloom with, perhaps, the fault of reminding us too readily of our popular friend, Florence Forrester. Of at least equal merit for exhibition purposes is Mrs Elisha Hicks—pride of her husband, who produced the Rose. The blooms nearly all come well [illegible] of exceptional fragrance, which is not generally looked for in an exhibition Rose. Not a very strong grower, it appreciates a moist summer more than this year's drought. One striking exhibition Rose came from P. Guillot (France), Comtesse de Cassagne. Copper pink in colour, it has long buds, is a free bloomer and worth watching.

Garden Roses, from which occasional exhibition blooms can also be plucked, are the Rev. J. H. Pemberton's Miriam, Nasturtium colour, but not a very strong grower here; Mr. Walter Easlea's Countess of Warwick, a pink-edged light yellow, a good bloom of which will add a few points to any exhibition box and M. Pernet-Ducher's Aspirant Marcel Rouyer, with some Sunburst blood in it. It grows well and carries blooms on erect stems, but for show work must be disbudded.

Only three climbing Roses made their *début* in 1919, and of these probably but one will remain with us, Mr. Walter Easlea's Hybrid Wichuraiana, Romeo, with dark red blooms. It is freer and fuller than Excelsa: a remarkably strong grower. The blooms continued here a fortnight after the bulk of the "Wiches" had finished. Romeo deserves popularity and will doubtless achieve it.

Out of the five dwarf Polyanthas produced in 1919 only two have shown merit here, Messrs. Bees' Evelyn Thornton, hybridised from Léonie Lamesch and Mrs. W. H. Cutbush, quite a nice grower with a delicate shell-pink bloom. From Holland comes a wonderful dwarf Polyantha in Nathalie Nypels, produced by Messrs. Leenders and Co. Its origin is Orleans and Comtesse de Cayla, and it produces magnificent trusses of creamy pink blooms. Here it has flowered continuously through the hot, dry summer and autumn with no artificial watering, when other Roses have shown the effect of the drought. Easily the best of the pink dwarf Polyanthas, it should leap into popularity if our trade growers will bud and place it on the market.

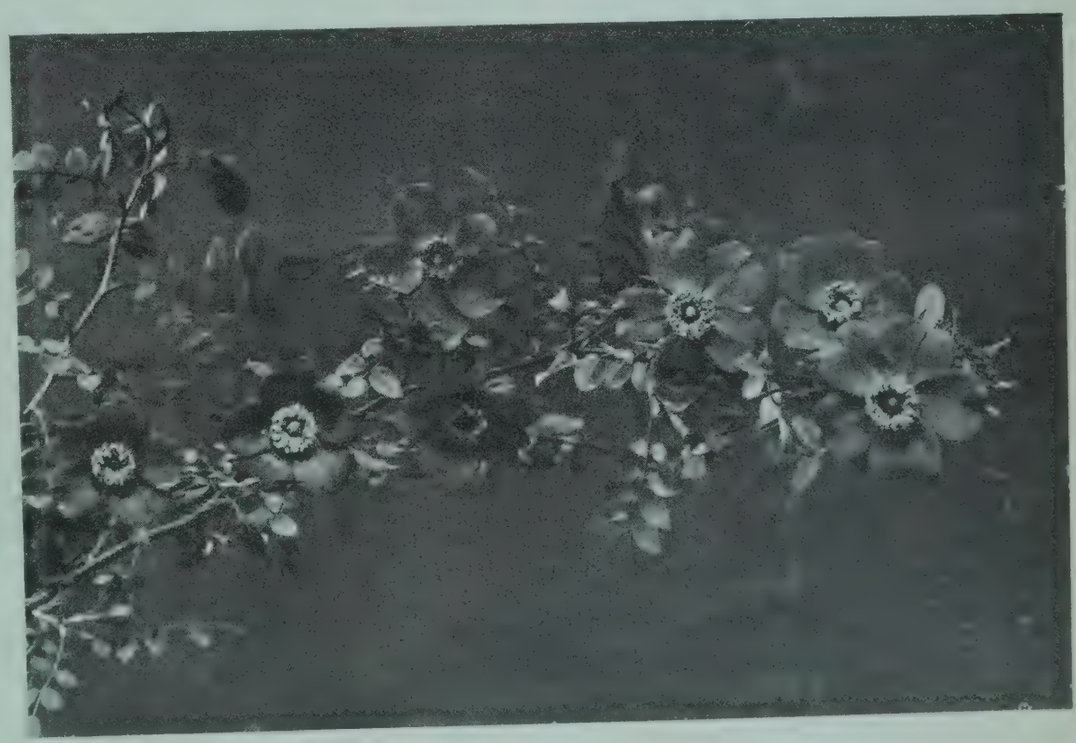
This is but a short description of the best few of the sixty-nine Roses tried. It has been a most interesting study, which shall be continued. Unfortunately the test was not completely satisfactory owing to the poor quality here and there of the plants sent from some nurseries. Bad packing and withered plants cannot give good results; in fact, several never survived the mild winter. The "too-much-alike" specimens are far too many, which should not be countenanced, while in some cases, unfortunately, the so-called new Roses are greatly inferior to our fine old varieties, which they must never be allowed to supersede.

HERBERT L. WETTERN.

Oxted.

Two Charming Rose Species

ROSA RUBRIFOLIA, sometimes called ferruginea, is now well known to most Rose lovers, as its beautiful bluish-red foliage is admirable for arranging with cut Roses. It is well worth growing, moreover, in the Rose dell or mixed shrubbery, for it is beautiful alike in leaf, wood and fruit. The hips, which are produced freely, are deep red in colour, and the sepals do not persist. The flowers open over a long period so that they never make much display at one time, but they are very distinct, not to say curious, having almost the shape of a Star Cineraria and being a peculiar shade of bluish rose in colour. Though nearly related to our native Dog Rose, it bears small superficial resemblance to it either in growth or otherwise.



ONE OF THE HANDSOMEST OF THE ROSE SPECIES, ROSA MOYESII.

Rosa Moyesii is unique among Rose species in the coloration of the flowers, which, mainly borne solitarily, are of good size and deep fiery red. The bottle-shaped fruits are almost as distinct as the flowers. They are of some size, often reaching 1½ins. or more in length. A tall grower, of erect and sturdy habit, the wood is furnished, especially at the base, with needle-like prickles similar to those found on Rosa rugosa. It bears in addition stout spines which make it a formidable barrier to animals when used as an ornamental hedge. The foliage, which is small, [illegible] related R[illegible] pale, somewhat [illegible]

The Skimmias.—These beautiful and fragrant shrubs, with their wonderfully brilliant berries in autumn, will flourish in any soil in which Rhododendrons will succeed. On light soil without an excess of lime they will be quite at home if a little peat, leaf-mould or spent manure from a hot-bed is incorporated. They may be associated in the garden with Rhododendrons, Kalmias or Pernettyas, or their contrasting foliage used to advantage in the Heath garden, but they should, in any event, be tried in association with Pieris (Andromeda) floribunda. The red berries of the Skimmias and the spires of silver bells of the Lily of the Valley tree greatly enhance in early spring the beauty the one of the other. The two best species are S. japonica with orange-shaped crimson fruits in dense clusters, and S. Fortunei with oval or pear-shaped fruits. There is much confusion between the species in nurseries and gardens, but S. Fortunei, which is bi-sexual and self-fertile, is a lower growing, more spreading shrub than japonica, with longer and narrower and more pointed foliage. Where S. japonica is planted, and it is a handsome shrub, at least one male plant should be included with each five or six females. The male form is often called S. fragrans; S. macrophylla is a large leaved male form which may be used, if desired. S. Foremanii is probably a hybrid between S. japonica and S. Fortunei, as the berries vary somewhat, even on the same cluster. S. Rogersii is also probably a hybrid, as, though it resembles S. japonica a great deal, it is, like S. Fortunei, bi-sexual.

The Gromwells (Lithospermum).—The most popular of these beautiful flowers is undoubtedly L. prostratum, which, with its variety Heavenly Blue, is to be found in every rock garden of any pretensions. Unfortunately, it does not flourish in every garden, a fact which is probably brought about by misleading directions in catalogues and books of reference. The plant dislikes a calcareous soil, and is by no means happy in the sour peaty compost so often given to it. A rather light turfy loam is the soil in which it really luxuriates, and this, surely, is the natural medium in most rock gardens. The beautiful blue of the flowers is seen in few other plants, and it is so perpetual flowering that a great deal of trouble would be worth while to make it at home. Heavenly Blue is hardly so robust a grower as the typical plant, but it succeeds quite well with similar treatment. The gem of the family is undoubtedly the winter-flowering L. rosmarinifolium. This is a charming alpine house plant, and in the south-west and near the coast generally it should succeed outdoors.

An Uncommon Rock Plant.—Dicentra cucularis is a delightful little plant for the rock garden and well worth its cost, as after a few seasons it makes a charming little tuft of foliage and flower each spring. In a cold house, too, it makes an admirable pot plant that will flower weeks in advance of the plants grown in the open ground. About 4ins. high, it has small sprays of white flower tipped with yellow. The best position is in a cool, shady spot on the north side of a large boulder, where the roots will be cool and moist.

"Reversion" or "Nettlehead" of the Black Currant.—The Ministry of Agriculture have issued a leaflet on this pernicious disease, for such it appears to be, though its exact cause is still undetermined. It is quite distinct from "Running Off," which has been shown to be due to imperfect fertilisation. All growers of the Black Currant would be well advised to procure the leaflet.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FRUIT GARDEN.

APPLES CRACKING (L. W. Squible).—The cracking of the Cox's Orange Pippin is not due to late frosts, but to the attack of a fungus, Fusicladium dendriticum, to which this variety is very subject. During the winter all the shoots and spurs that show signs of splitting of the bark should be pruned out, together with all dead or dying wood. In spring, just before the buds burst, and again after the petals fall, the tree should be sprayed with Bordeaux mixture.

RINGING FRUIT TREES (E. M. G.).—The usual pruning or training should be carried out this winter where ringing is purposed.

BITTER PIT IN APPLES (W. S. G., Braintree).—Spraying is useless to counteract bitter pit. This disease is not due to any fungus or insect, but is in some way connected with irregularities in the water supply; and the only means likely to mitigate it lie in regulating the water supply, so far as may be, in order to secure an even flow to the fruit throughout its development. The trouble is more prevalent in hot, dry than in cool, moist seasons.

MISCELLANEOUS.

MANURE FOR MUSHROOMS (N. R.).—We fear you would have little success with the peat moss litter for making mushroom beds.

UTILISING FRUITS OF JAPANESE QUINCE (No name, Andover).—The fruits of the Japanese Quince may be made into jelly irrespective of the colour of the flowers of the bushes which bear them. The method would be the same as with the common Quince.

NAMES OF PLANTS.—The Duchess of S.—Pernettya mucronata alba.——W. L., Sutton Coldfield.—Datura meleloides. The genus Brugmansia is now known as Datura.——W. L., Carnoustie.—Cannot identify without flowers or fruit.——W. D., Bournemouth.—1, Atriplex Halimus, "Tree Purslane"; 2, Borago laxiflora (blue flowers).

NAMES OF FRUIT.—J. E. P., Redhill.—Apples: 1, King of the Pippins; 2 and 5, Cox's Orange Pippin; 3, Lamb Abbey Pearmain; 4, Egremont Russet; 6, Lemon Pippin; 7, Bismarck; 8, Margil; 9, Cellini; 10, Ribston Pippin.——J. C.—Apple Chateley's Kernel.——A. S., Westcott.—Apples: 1, Maltster; 2, Charles Ross; 3, Braddick's Nonpariel.——R. H. S., Stirling.—Pears: 1, General Todleben; 2, Maréchal de la Cœur; 3, Josephine de Malines.——E. M. W., Southport.—Apples: 1, Gold Medal; 2, New Hawthornden.——C. W., Kegworth.—Apples: 1, Oslin; 2, Cellini; 3, Charles Ross; 4, William Crump; 5, Wealthy; 6, Stirling Castle; 7, Worcester Pearmain; 8, Barnack Beauty; 9, Name uncertain; 10, Wellington; 11, Bramley's Seedling; 12, Potts' Seedling. Pears: 13, Belle Julie; 14, Marie Louise d'Uccle.——T. S. T., Winscombe.—Apples: 1, Hawthornden; 2, Maltster; 3, Blenheim Orange; 4, Brown's Codlin; 5, Barnack Beauty; 6, Kedleston Pippin; 7, Foster's Seedling; 8 and 10, Bramley's Seedling; 9, Waltham Abbey.——H. W. C.—Apple Fearn's Pippin.——Colonel P., South Wales.—1, Wellington; 2, King of the Pippins.

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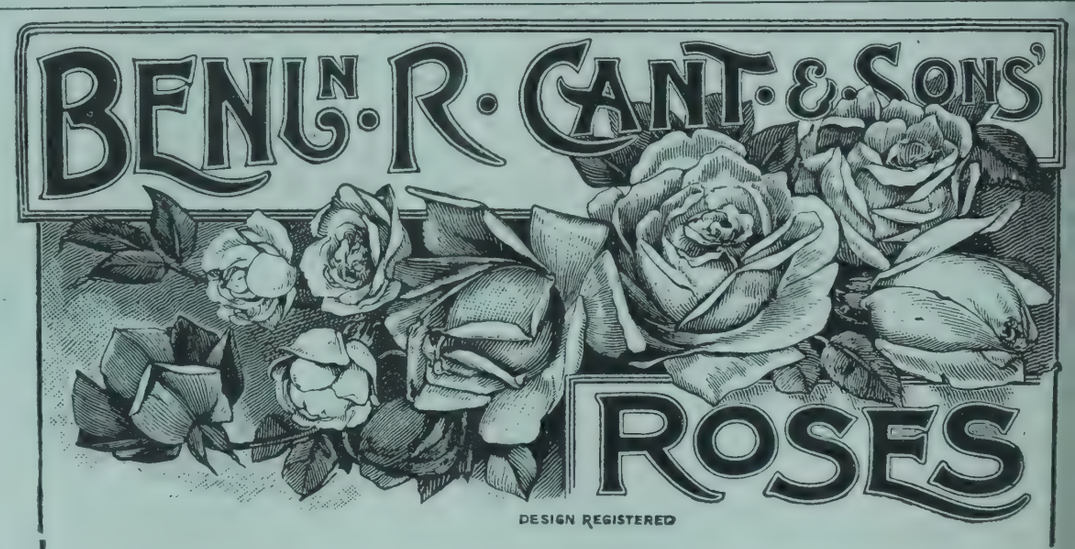

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No. 2607.—Vol. LXXXV.]

NOTES OF THE WEEK

[November 5, 1921.

IN a letter which will be found in our "Correspondence" columns, the Rev. J. Jacob asks the assistance of THE GARDEN in obtaining the views of the various Daffodil Societies throughout Britain on the proposed conversion of the Midland Society into a National Society. Probably some secretaries are "lying low," pending consideration of the matter by their respective committees. The ventilation of the view-points of all parties concerned is very desirable, and we shall be pleased to publish the opinions of any Daffodil Society's representative, or, indeed, of the general Narcissus-loving public.

What the Daffodil Needs.—A great accession of interest will have to be shown in this beautiful flower by the general public if the proposed new society is to gain a subscription list sufficiently weighty for its enhanced activities The number of flower lovers who appreciate the points of the show Narcissus is very, very limited. On the other hand, there is surely no garden lover who does not appreciate the more natural charms of this beautiful flower. The Rose Society very wisely has classes for Roses in baskets and used for table decoration. The Hardy Plant Society encourages the exhibition of herbaceous flowers in arrangements approximating to those in which they are grown outdoors. It seems fairly obvious, therefore, that the easiest, if not indeed the only, way to stimulate the necessary interest in the doings of the proposed new society is to let it be known that there will be classes for groups of plants and cut-flower arranged, as far as possible, as they would grow outdoors, in which groups the Daffodil shall supply the motif. There might also be classes for groups of Narcissi to cover a certain stated space, the numbers of each kind and their arrangement to be left entirely to the exhibitor These suggestions are not intended as being necessarily the exact new departures which should be undertaken. Rather are they intended as pointers which, under careful scrutiny and discussion by the committee, might probably be greatly enlarged and improved upon

The Staging Difficulty.—It seems evident from the Rev. Jacob's letter [illegible] of the Daffodil fanciers, if we may call them so, and the Royal Horticultural Society has seem probable that the blame for this is all upon one side, if indeed blame is to be imputed at all. Unpunctuality in getting staging ready at flower shows is, alas! not confined to Vincent Square. It occurs also at some of the biggest and supposedly best managed of provincial exhibitions. The letting of the Hall for extraneous purposes brings in, of course, a considerable revenue. It has never, so far as our knowledge goes, been deprecated, much less opposed, by any considerable body of Fellows. There is, of course, a penalty attaching to the failure to clear the Hall by the time stated when the letting was arranged for, but, this notwithstanding, it does occasionally happen that staging at R.H.S. meetings is interfered with. It would seem, then, that the exhibitor to whom the Rev. Jacob refers would have been well advised to reconsider his decision not to exhibit at Vincent Square again, if this were his sole ground of complaint.

Incompatibility of Temperament!—The fact is that the "Royal" is, rightly enough, occupied with larger issues than the cult of the exhibition Daffodil. Whether it always occupies itself in the right way is a totally different question. It certainly does not follow that because it offers prizes for home grown fruits, it ought therefore to do the same for home grown Daffodils: the cases are not parallel. Emphatically, the Daffodil growers themselves should run their own show, and to this end the hospitality of our correspondence columns to continue the discussion is freely at their disposal.

A British Bulb Society?—A suggestion was made in our last issue that the new "National" Society should be constituted on wider lines and should be called by some such title as "The British Bulb Society." While we cordially agree that the British bulb trade should combine in some way to protect their mutual interests, it seems very unlikely that the Daffodil enthusiasts will be content to allow their beloved flower to share favours with the gaudier, but less chaste, Tulip, for instance. This question of a combination of British bulb growers is a big one—too big to be dealt with in this issue. We hope next week to make a concrete proposal for the practical carrying out of an ideal which appears difficult of fulfilment. It is, after all, concrete proposals, not abstract propositions, which will bring such a combine or association into existence.

An Important Discovery?—An article will be found on page 556 referring to experiments carried on abroad as to the effects on growing plants of an unusual percentage of carbon di-oxide in the air. Assuming the experiments to have been carried out under satisfactory conditions so that the comparative effects could accurately be observed, it does not, of course, follow that the treatment could economically be applied Should it, on the other hand, be found possible to utilise the knowledge practically, if only for certain crops, it would, in these days of increasing food shortage, be a discovery of the utmost importance. It is to be hoped that steps will [illegible] to [illegible] experiments in this country on the lines of those already carried out [illegible]

THE WILD SPECIES OF TULIP

THOSE whose idea of a garden is a pleasant place in which to spend one's leisure or to entertain one's friends amid a blaze of colour will be content to grow the garden Tulips; but those who want their flowers to make them think, instead of to appeal only to their sense of colour, will devote themselves rather to the little known wild species which give us infinite variety and present us with endless problems, of which the solution is not easy.

And first of all a word of warning. Those who grow species must be prepared to lift, at any rate, the majority of them every year in June or July and replant them at the beginning of November. Bulbs left in the ground will often survive and do well for several years until there comes a spring in which they are induced by a spell of mild weather to push their leaves prematurely above the soil, only to have them ruined by the dreaded "fire," a disease which only appears when the climatic conditions are unfavourable. As to soil, Tulips are not exacting, provided that there is no lack of lime; and it is just as possible to grow good bulbs in well drained clay as in sand, though the labour of digging up "droppers" which may go down a foot or more below the surface, is then considerably increased.

The first Tulip to flower is usually biflora or some closely allied form, such as turkestanica, which bears from two or three to as many as ten or a dozen small starry flowers on each stem. These species are often in flower before the end of February, and so, too, is T. Kaufmanniana, which is one of the finest of all. It is a very variable species, for the flowers may be either white with a yellow centre, pale or deep yellow, or even wholly scarlet. In the white and yellow forms the backs of the outer petals are always coloured, either with bright scarlet or crimson, or even with some shade of a bluish grey. It is astonishing to see how quickly these flowers develop from the tufts of leaves which have only just pierced the surface of the soil. One or two days of sunshine will bring the flowers fully out, and then the stems lengthen rapidly and finally hold the flowers well above the foliage. This Tulip is found on the steppes of Turkestan in close proximity to, if not actually mixed with, the shapeliest of all Tulips, T. Greigi, which may be either wholly scarlet or yellow heavily marked with scarlet. Another characteristic is that its foliage is blotched with purple, a feature which is only found in this species and in the rare T. Micheliana from the neighbourhood of Askabad and sometimes very inconspicuously on forms of T. Fosteriana. This last is one of the most magnificent of all Tulips, for the dazzling scarlet flowers measure as much as 10ins. across when fully open, while to give any definition of the species which shall include all its forms and yet exclude all other species is an almost impossible task. The flowers themselves may have a clear yellow or a solid black base or it may be of any combination of these two colours, while the leaves may be either of a bright glistening green or so hairy and glaucous as to become distinctly grey. There are probably a number of characters here which could be separated and re-combined by working on Mendelian lines, though, when it is realised that it takes eight years to raise a single generation, it is obvious that it would be the task of a very long lifetime to work out all the possibilities of this bewildering species.

A COLONY OF THE BRILLIANT TULIPA KAUFMANNIANA.

It is from the evidence of T. Fosteriana and of other wild collected species that I have convinced myself that every Tulip, of which the individual flowers have identical basal blotches, was originally a garden seedling from which all the increase has come by offsets from the bulb. This is well illustrated by those North Italian Tulips which often appear in catalogues as species, namely, Didieri, Marjoletti, Mauriana, etc.; for each of these has a distinctive basal pattern, and there is probably little doubt but that these were seedling Tulips which refused to "break" or become striped in the days of the Tulip mania, when growers would not tolerate self-coloured flowers. These were thrown out as rubbish and took root in the vineyards or in the fields. As far as is known they are always found in cultivated ground, and only last April I saw a whole colony of Oculus Solis among the young corn in a field by the roadside near Aix-en-Provence. They never occur in the stretches of wild rocky ground between the fields.

The finest wild Tulips seem to come from Central Asia. Three or four have been already mentioned, and another is T. præstans, of which the peculiarities are the curious light scarlet colour of the flower and the branching stem, which produces two or three blooms. Of this species there are two forms, an earlier and dwarfer form, of which the filaments of the anthers are bright scarlet, and a later and finer form in which they are jet black. T. Eichleri is a Georgian species with huge deep scarlet flowers and a convenient habit of increasing by offsets much more readily than most of the other large-flowered species. T. ingens has a solid black base to its deep red flowers and very glaucous foliage, which distinguishes it from the greener foliage of T. Tubergeniana. Both these species must either be increased by seeds or collected in the wild state. At any rate my experience has been that they never make offsets, for I still have the exact number of original bulbs which I first purchased twelve years ago. They have neither died out nor increased.

With most Tulips it is easy to tell whether they are going to flower or not as soon as the leaves pierce the soil and begin to uncurl. If there is a single leaf only, then there will be no flower; but if there is more than one leaf on the stem, then flowers may confidently be expected, except in the case of a rare but very fine Caucasian species, T. Schmidtii, of which young plants have the provoking habit of producing as many as five or six leaves and of failing, nevertheless, to flower. This is, perhaps, less surprising when we remember that the flowering bulb of this species produces as many as nine or ten leaves, above which towers the tall stem, bearing a large bright scarlet flower with a black base. The flower itself is not unlike that of another rare species, T. Hoogiana, which also bears a large number of leaves and which for some reason is not easy either to grow successfully or to propagate. It shares, I think, with T. Micheliana the distinction of being one of the

only two Tulips of which my stock has grown smaller instead of larger since I began to devote myself to the cultivation of the Tulip species.

The latest Tulip of all to flower is T. Sprengeri, which is usually in flower in June and which finds no difficulty in setting and ripening its seeds, whereas the earlier flowering species only succeed in exceptionally warm and dry summers. T. Sprengeri is one of the few Tulips which seems capable of holding its own among other flowers, and I know of more than one garden where its seedlings have sprung up among Bearded Irises and where its bright scarlet flowers form a glaring contrast to the purples of the Irises.

With the exception of biflora and turkestanica, all the Tulips so far mentioned belong to one of the two great sections in which the genus seems naturally to fall. Of these the first contains all those species of which the stamens grow broader towards the base and are entirely destitute of hairs, and the second those in which the stamens swell out a little above the narrow base and which have more or less numerous hairs on and about this swelling. The only Tulip which is said to be a native of these islands, namely, T. sylvestris, is a good example of the second class, for it has the narrow leaves, the branching stem and small bulb of the species with hairy stamens. In the same group come numerous Tulips whose home is in Greece or Western Asia Minor and which are sometimes obtainable under the names of Hageri, orphanidea or Whittalli. Of these the flowers are either of a dull red, terra-cotta or yellow shaded with olive. There are innumerable forms among them, and it seems quite impossible to discover their botanical names, for the authors of the descriptions give only an inadequate account of the plant before them, which they do not in any way distinguish from its nearest relatives. In some cases they solemnly give accurate measurements of the anthers and filaments, but omit to mention the fact that in the morning, before the anthers burst, they may be fully an inch long by barely an eighth of an inch wide, while by the afternoon they are fully a quarter of an inch broad and hardly any longer. The tissue seems to be very elastic and, when no account is taken by the author of the description of the species of this sudden change, it is obvious that his information about the anthers is entirely useless. In North Africa this section is represented by a Tulip which Mr. Elwes discovered there many years ago now, namely, T. primulina, a dwarf white-flowered species, of which strong bulbs bear two or three flowers. The peculiarity of the species is that the flowers remain closed in the hottest part of the day, while those of all other species are fully open, and expand in the late afternoon, when all the others are closing. It is a curious habit, of which no explanation has yet been suggested. The flowers are very sweet scented, as also are those of T. sylvestris. In Crete we get T. saxatilis, with flowers of a curious dull lavender pink with a large yellow base and chocolate anthers. The flowers of this species are much less frequently seen than the broad glistening green leaves of the non-flowering bulbs. One of the peculiarities of all these Tulips is that the single leaf of the non-flowering bulb is usually several times as wide as the more numerous narrow leaves of the flowering plant. T. saxatilis needs a thorough ripening, and the only way to get it to flower freely seems to be to ripen the bulbs artificially by keeping them for some weeks in sand in a warm temperature of anything from 80° to 100°. This Tulip also has an extraordinary habit of sending out creeping stolons which run away 6ins. or a foot horizontally, so that the young bulbs form in the path or under a rock or in any odd corner. Hence its wide distribution whenever it has once been introduced into a rock garden.

THE BEAUTIFUL TULIPA PRIMULINA.

In Persia we get the deep yellow T. persica, of which the leaves squirm about on the surface like small snakes; and further East the beautiful little white and yellow T. dasystemon, which produces a cluster of three to five flowers from its tuft of dark green leaves.

No mention has yet been made of those species which, at first sight, might be taken to be members of this same group, to which they do not, however, belong; for instance, T. Clusiana, which comes from Persia or the North-West Frontier of India, but which has long been naturalised in the North of Italy and in the South of France, even if it is not indigenous there also. The closed flower is a bright cherry red, while inside is the white with a deep violet base. Other slender species which also have not got hairy stamens are the brilliant scarlet T. Maximowiczii and linifolia and the pale yellow Batalinii. Of these the two former are closely allied, T. Maximowiczii, however, having erect leaves, while those of T. linifolia are wavy and lie flat on the ground. T. Batalinii is only a colour form of T. linifolia and hybridises readily with it to give a series of beautiful varieties, some of which are almost of an apricot colour.

Another beautiful species is T. kolpakowskyana with brilliant yellow flowers [illegible] while the [illegible] curious habit which [illegible]

THE ATTRACTIVE YELLOW AND WHITE TULIPA DASYSTEMON.

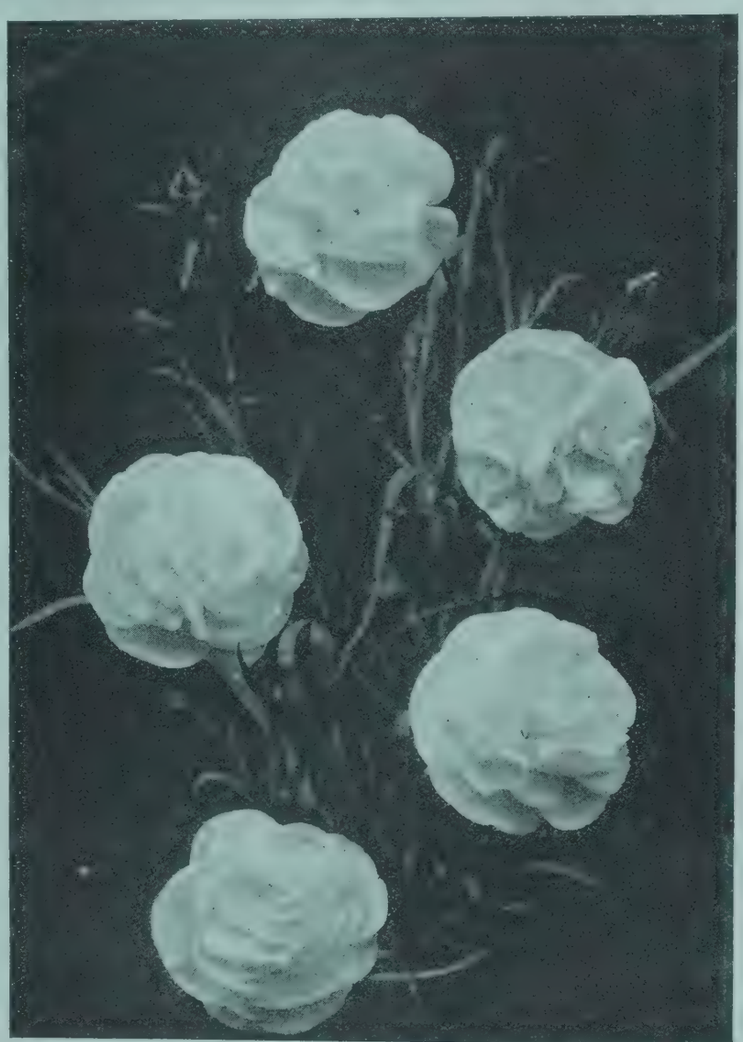
soon as the bud pierces the soil it turns its narrow point over and lies horizontally on the surface. Then, as the stem lengthens, the bud is held pointing downwards so as to produce a kind of shepherd's crook, and it is only when the flower is about to open that it is held erect. No explanation of this curious habit can be offered, but it is astonishing to see a whole bed of a hundred or more of these Tulips all acting in precisely the same manner, especially when they have been raised from seeds in this country. It is astounding to think that this curious habit can be in some way transmitted in the small flat seeds which seem hardly to contain anything at all.

There are many other beautiful and interesting species, but the instances given already will show what a vast field for investigation opens out before anyone who embarks on the cultivation of these interesting plants. They have surely only to be better known to be much more widely cultivated.

W. R. DYKES.

THE BORDER CARNATION

HAVING read the article by "T. H." in your issue of October 15, I hope that your correspondent will excuse me for emphasising some of his points, while somewhat modifying others. The one I wish to emphasise is the fact that the Border Carnation to-day is a hardy plant for garden decoration first, and, very much second, a plant grown in pots under glass for show. And it has been so since the introduction of Selfs, Fancies and yellow-ground Picotees by Messrs. Martin R. Smith and the late James Douglas respectively. Members of the trade grow their plants largely in pots and under glass withal, and not without some reason, as layers from such plants are more easy to peg down; they are also as a rule cleaner, therefore healthier than most raised outside in ordinary border soil. When I desire to layer a plant growing outside, be it a seedling first bloomed or named variety, I infinitely prefer to take the plant up, plunge it into a 9in. or 10in. pot and layer there Because I prefer to have plants unaffected with carnation fly (maggot), which ruins many good layers put down in open soil, whereas hardly one in a thousand put in an ordinary cold frame is ever so affected. Even for planting outdoors, therefore, I prefer sound layers from plants either grown in pots or put there for layering purposes, as the young plants from such are all round superior to those raised in the open.



FRAGRANT BEAUTY—THE WHITE CLOVE CARNATION.

I quite agree with most that "T. H." says in comparing the old hardy Border flower with its newer relative, the Perpetual. I prefer the word "Tree," seeing that the former is to a great extent governed by the "doctor"—in other words, artificial heat. He is also near the mark when he speaks of the new race of Cloves, which are in most cases great improvements on the Old Clove, as it was known fifty years ago. He, however, hardly brings out sufficiently one great attribute of the Bookham Nursery when he fails to mention the fact that practically every one of the newer Cloves possesses a strong enough stem to support itself with one tie or attachment to a stake. Until the height of the stem can be reduced to, say, between 1ft. and 18ins., I consider it would be impracticable to do away with stakes. After all, most Chrysanthemums require stakes, and fairly strong at that, and if we reduce the length of stem of the Carnation to, say, that of the Pink, I fear we should lose the effect of the many side stems which the plant at present possesses in a much greater degree than the Pink.

There are, in addition to the Cloves, a good many of the exhibition sorts with stems equally strong, and I shall name a few hereunder as follow: Selfs—Elaine (white, a grand variety), Border Yellow, Peach Blossom, White Fox, Effie Deans and Bookham Rose. Fancies, white ground—Daisy Walker and Lord Kitchener. Fancies, yellow ground, in more modified form—Skirmisher and Centurion. My list of ten varieties contains the names of some of the best all round doers, whether grown outdoors or for competition; and I feel sure that more are coming and that the day is not distant when wiring of blooms in vases will no longer be allowed.

Finally, let me say that surely there is room for the grower for show as well as the one for border decoration entirely. The Rose, Tulip, Daffodil, Chrysanthemum and Sweet Pea have equally got their devotees in both forms, and although they may not practice to the same extent the vices of the "Carnationist," I question if one of these flowers I have named is entirely exempt from "double dealings."

As regards the flower fancier (florist) being a rare bird in these days, let not "T. H." assume too much. He or she may have changed in plumage somewhat, yet remains.

R. M.

Violets for Winter

During the winter months sweet-scented flowers are, exclusive of those from forced bulbs, very scarce. The fragrant Violet is always appreciated and is, moreover, within the reach of every amateur who possesses a small plot of land and a frame or cold greenhouse.

IT is not necessary to have elaborately constructed frames or pits in which to grow the plants. Some growers call the cultivation of Violets in frames "forcing." These plants, however, do not respond to forcing properly so called. They do make steady growth in clean surroundings nicely free from frost and fog. Sturdy clumps or plants are necessary. From weaklings a flower harvest cannot be reaped at any time; certainly not in the winter. The months of September and October are best for the work of lifting and replanting under glass.

The ideal position is one on dry ground, open to the south, south-east or south-west. As much as possible of the morning and noon sun should be secured. Old potting compost forms a suitable basis mixed with well rotted leaf-soil and good loam with 1 peck of rotted farmyard or similar manure—that from old hot-beds being as good as any—to 5 pecks of compost. There should be a depth of at least 9ins. of this special soil. It is unnecessary to have a hot-bed. A quite cold bed, the soil of which is nicely firmed before the Violets are planted, is preferable. The surface of the bed should be about 1ft. from the glass to allow of a free circulation of air between leaves and glass.

If the soil in which the plants are growing is dry, apply clear water freely several hours before lifting. With a garden fork or spade carefully lift the plants with a nice ball of soil adhering to the roots, and with equal care replant them in the frames, pressing the soil firmly round the roots with the hands. Do not tread on the soil. The double-flowered varieties should be planted 3ins. nearer together than those of the single-flowered. Avoid overcrowding.

Immediately on finishing the work of planting, water thoroughly through a fine-rosed watering can, close down the lights and shade lightly if the sun shines. At the end of four days ventilation may be freely given. Except in rainy, foggy or frosty weather the lights should be taken off in the daytime. Water only when the soil is approaching a really dry state, and once a month or so lightly prick the surface soil with a pointed

stick. In very severe weather it will be necessary to put on mats, sacks or litter. Of single-flowered varieties Princess of Wales, La France, California and semperflorens will be appreciated. Of doubles, Mrs. Lloyd George, Marie Louise, De Parme, Mrs. J. J. Astor, Coolcronan and Belle de Chatenay, the last named white, are recommendable.

GEORGE GARNER.

THE AUTUMN TREATMENT OF BLACK CURRANTS

Few people seem to realise the different conditions under which Red and Black Currants produce their fruit, and the totally different methods both of cultivation and pruning necessary to obtain the best results.

THE value of this crop is insufficiently realised. Black Currants grown under congenial conditions, be it in a large way or small, pay better than any other fruit crop, so that a few notes on how to obtain the best results, and how to avoid failure should not come amiss.

"Big bud" or Black Currant gall mite, has been, together with "reversion" (a fruitless condition supposed by some to be related in a mysterious way to "big bud") a terrible pest in the past and many plantations were decimated by it, but the wide distribution of a variety with very great "big bud" resistance, almost amounting to its being immune, together with clean culture, and raising young stock from soft sterilised cuttings, so as to obviate the smallest chance of infection, has placed the culture of Black Currants on a safe basis, even commercially.

Spur pruning is undoubtedly the correct method for Red and White Currants, and by spur pruning is meant cutting back the present year's growth to within three or four buds of the old wood, cutting out all new growth yearly, to form a bunch of fruiting spurs on the main stem or stems, except of course where new growth is needed in forming a bush from a young plant, or to replace any part of the bush that may die back or become unfruitful from disease.

The best yielding Red and White Currant bushes are those with three or four upright rods from a common base or stem, with all side shoots pruned back to within a few buds of the rod, just as a gardener prunes a vine, the fruit being produced in bunches on the spurs formed by pruning back the young shoots every autumn as soon as the leaf falls.

Now with the Black Currant, the treatment is totally different, in fact the reverse is the rule, for it is on the young shoots produced this year that we get next year's crop, and these young rods will give us fruit in a lessening degree for three years, when they must be pruned out to make room for young growth coming up from the bottom or stool of the bush—with Black Currants we must, to attain the highest results, establish the plant not as a single stem or series of single stems branching from a main trunk, but as a stool from which are being constantly thrown up quantities of young rods that will bear fruit the following year.

In planting Black Currants therefore it is better to put in two or three cuttings in a triangle, and as soon as they are rooted and growing strongly to cut them down to the ground level and to induce them to form plenty of shoots at and below ground level.

Black Currant cuttings may be either taken from the old wood pruned out or from soft cuttings taken when the bush is in full growth. Cuttings from the old wood should be about 10ins. long. They should be planted deeply and firmly, with only 2ins. of the cutting protruding above the surface. No buds should be removed from that portion of the cutting inserted in the soil, as many of these buried buds will push up to the surface and help form a big vigorous stool. Whether the propagation is from soft or old wood cuttings, they should be sterilised by immersing them for half an hour in a bucket of water, with which is mixed a teaspoonful of tobacco extract or formalin. Soft cuttings are taken from the tips of growing shoots about 3ins. long and will root readily in a frame or under a hand light.

If you are planting single stemmed plants, as often purchased from a nursery, plant them deeply right up to where the branches spring from the main stem and as soon as planted cut them off within an inch or so of the ground level to induce them to break into growth lower down. Then stick in the bits cut off as cuttings round and close up to the planted Currant; most of these bits stuck in will root and all help to form a strong and big stool, sending up each season eight or a dozen nice strong shoots to fruit the succeeding year.

No part of a Black Currant bush above the base or stool should ever be more than three years old. After the crop is gathered and the leaves are turning brown and falling, as they are now, go over your bushes and cut out all the wood that is over three years old; cut fearlessly and cut low, as near the ground as possible. Cut out any old wood that shows no more growth for the year than a few inches near the tips, and has few fruiting buds below it, for as soon as the foliage is down you can see plainly the fruiting buds for next year's crop better then perhaps than at any other time. Where the bark is black and rough, the season's growth but a few inches and the buds few and far between, cut it out, and young rods will be pushed up from the bottom, keeping the supply of fruiting wood constant and the bush in a vigorous fruiting condition.

If you are planting Black Currants do not fear to plant deeply. With most fruit trees or bushes to plant below the "water line" is fatal, but this is not so with Blacks.

Black Currants need well feeding if good crops are to be expected. It pays to feed them well, since berries and bunches will then be larger, and consequently weigh more. Black Currants like organic manure and do not respond readily to chemical fertilisers, though liquid manure in the shape of house or laundry slops is most beneficial. I find the manure they appreciate most is "shoddy" manure, the refuse from cloth factories. A little goes a long way and a dressing at the rate of 2 cwt. to 2½ cwt. per acre, dug in round the roots will last them a couple of years. Give them also a liberal dose of basic slag *now*. Sprinkle a couple of pounds round each bush.

If the leaves turn brown before they fall, and crumple up on the bush, spray the bushes heavily with Bordcrite or lime, strength of 1 in 12, after pruning.

Never tip the young shoots when pruning, as is so often done in private gardens. You are only cutting off your crop!

A friend who, on my advice, planted Black Currants ten years ago, writes last month that they have been his mainstay during the last few years of short fruit crops, and even during the drought of this unusually rainless season Black Currants have brought him in a return of a hundred pounds per acre.

The Black Currant thrives best in damp or heavy soil, but will do well in any ordinary garden. The points to remember are liberal feeding or manuring, drastic pruning of wood over three years old and the elimination and burning of any bush or portion of bush that shows a tendency to reversion.

W. H.

AUTUMN-FRUITING RASPBERRIES

To succeed with autumn-fruiting Raspberries, their culture, which is here described, must be thoroughly understood.

ALTHOUGH I do not advocate the planting of autumn-bearing Raspberries so extensively as the summer-fruiting kinds, I certainly advise those who possess a garden sufficiently large for fruit to find space for a few plants of Raspberries that produce their fruits in October and November. They are much appreciated for culinary purposes, while if the weather is good they are excellent for dessert, and thereby furnish an agreeable change to the usual run of dessert fruit at this reason.

There are several good autumn-fruiting Raspberries, but one that has given satisfaction in both wet and dry seasons is the Hailsham Raspberry, or Hailsham Berry. It produces large fruits, which are rich crimson in colour, of excellent flavour, luscious, free bearing, and, moreover, the plant is vigorous. The foliage is large and handsome and protects the fruit, which is produced for some distance towards the end of the growths.

Another excellent kind is November Abundance, a variety raised from Catawissa and Superlative. The fruit, which is borne in large clusters, is large, deep red and good flavour, and the plant is unusually vigorous. If transplanted frequently this Raspberry will produce heavy crops during the autumn months.

Belle de Fontenay and Queen Alexandra are also grown for autumn fruiting. A fruit of which I have heard good accounts is the Himalayan Berry, a comparatively new Blackberry hailing now from California, but said to have been found in the Himalayas. The fruits I have seen are about the size of large Blackberries, and the flavour is excellent, but rather acid.

Raspberries pay for generous treatment, and when preparing the ground it should be dug deeply, and some good quality manure and burnt rubbish incorporated as the operation proceeds. A suitable time for planting is November, and the suckers that appear some distance from the old root stock should be chosen for starting a new plantation. They are planted in lines 5ft. to 6ft. apart, and a distance of 2ft. allowed between the canes. Do not plant too deeply, as Raspberries are more or less surface rooting. The canes should be cut back to within 18ins. or 2ft. of their base In the spring the whole of the canes are cut down to ground level, and when new growths appear they must be reduced to four or so of the strongest These will produce a crop of fruit in October and November. The cutting to ground level must be done each spring.

T. W. B

THE EVOLUTION of the BEARDED IRIS

The very considerable developments, during recent years, in the characteristics of this fascinating flower are but the harbingers of even more extensive developments in the not distant future.

IMPROVEMENT in our principal garden flowers is always going on. At times it may be slow or even seem to cease, then, perhaps, a new species may be introduced, or it may be simply that a freer imagination is applied to the task, and once more the flower sets forth on its onward course towards that ideal of perfection which will always be just beyond. When a flower is in its most active period of development one is tempted to try to forecast its future. Not too far ahead, for that can be little better than random guessing. But for the immediate future we can have every confidence, and even certainty within limits, in the light of the knowledge that Mendel's laws have given us, and especially if we have records of the ancestry of our present varieties. In fact, breeding will some day become an exact science, and when all the characters of a flower have been analysed and their factors and their interrelationship determined (as Miss Saunders and Miss Wheldale have already done for the colours of Stocks and Snapdragons), flowers will be made to order.

The Iris is now in such an active period of development. Let us roughly analyse its characters and see wherein has been the improvement that has made the Iris of to-day so greatly superior to the earlier varieties. We may then see perhaps what further possibilities there are on these lines in varying combinations, and gather suggestions of improvement in other directions that appear to have been so far neglected or overlooked.

We deal chiefly with the individual flower. For those whose ideal in the garden is masses of harmonious and contrasting colour the florist's ideals of perfection of the individual flower are no doubt scarcely understandable, but it is in the flower—its size, form, colour and substance—that the progress has been made. These are the essential characters—habit, height and freedom of flowering, though by no means negligible, are of secondary importance in displaying the flower to best advantage.

In freedom of flowering the Flag Iris of to-day is, perhaps, no better than the earlier varieties, and there are, indeed, some with the highest qualities of size, form and colour that are all too shy, but on the whole the free-flowering qualities have been at least maintained, and this is a notable achievement, since increased size and quality is so often accompanied with fewer flowers. There is, then, every indication that the Iris of the future will not only be as free flowering as those in the past but will surpass them.

The introduction of Trojana has given us generally a taller and *wider* branching habit, well adapted for specimen plants. The type of the older varieties, however, was often equally *freely* branched, but with shorter and less spreading side stems, thus holding the flowers closer, and these are more suitable for massing. The two types, as they each have their use, will be maintained side by side in the future, but the tendency is towards the wider branching habit, as it displays best the larger and finer formed flowers of the newer Irises.

The general height of Irises has also been increased, so much so that except for special positions 2ft. is a minimum, and the average is between 2ft. 6ins. and 3ft. The introduction of Ricardi, Junonia and Mesopotamica has

THE CHARMING ANN PAGE, RAISED BY MR. HORT.

THE STATELY PROSPERO, RAISED BY MR. YELD.

oduced still taller plants with noble spikes t. high, but as yet the flowers are poor in form id colour, and the constitution of these varieties so weak and uncertain that they are of no use r general cultivation at present. There is no oubt, however, that these drawbacks will be rercome in time and that the average height Irises will be between 3ft. and 4ft.

It is in the individual flower that the greatest id most remarkable advances have been made. 'e must try to see what it is that constitutes iis general improvement. There can be no ngle or exclusive ideal of beauty for any flower; ut that there are some principles which, applied a various ways, will give several or many different ypes of beauty, each ideal in its own way, no one ould doubt if they compare the best of the newer rises with the older varieties. And I think that he main principle is symmetry or balance. A ower may be small or large, and its form may ary within limits, and yet it may be beautiful f perfectly proportioned. Again, in colour, the ltimate criterion of excellence seems to be richness nd purity—harmony and contrast being much nore elusive and indefinite.

Let us then sum up the qualities in the flower f the modern Flag Iris. Already it is, on the verage, larger—much larger—than the older arieties, and so long as the symmetry and balance f the flower and its substance and colour is naintained no limit can be set, and it may be hat even larger flowers will be attained. There re, however, already in existence flowers so arge in comparison with the species that have elped to produce them that the work of the mmediate future will be in perfecting the form f these giants and producing them in the full range of Iris colours (the pure yellow standard variegata type is still comparatively small) than in any appreciable increase of size. These include such varieties (to mention only a few) as Lent A. Williamson (the finest and largest American variety), Vilmorin's Magnifica and Ambassadeur, Hort's Ann Page, Yeld's Asia and Prospero, Denis' Mdlle. Schwartz, and my Titan, Cardinal and Bruno. Nevertheless, the Iris will eventually be larger even than these.

In substance likewise there has been a very great advance, of which Dominion was the first and is still the most remarkable example. Many of even these largest-sized Irises have great substance and stand firm through sunshine or rain to the last. It may be noted also that this increase of substance is always combined with, and is probably partly the cause of, the richer colouring of these flowers. The only one of the old standard varieties that has anything like such substance is pallida dalmatica Princess Beatrice.

When we compare the newest with the old varieties, the most obvious improvement in the form is in the broadening of the segments. And it is the most important. In this the old florists were right, but when they laid it down that the circular outline was the one and only ideal form they fell into the error of pushing things to extremes. For though it is true that a circle is the logical conclusion of the principle of broadening a surface in proportion to its length, beauty is not based on logical conclusions. The Iris, like all flowers has a distinctive form of its own with three upright standards and three either hanging or spreading falls. In the perfect flower these two sets of petals must be balanced. One of the effects of the introduction of Trojana has been to give us oblong unbalanced flowers. Not even the beauty of colouring of Isoline can compensate altogether for its lack of refinement of form. This defect is now being bred out by mating Trojana hybrids with broad-petalled varieties, and in the near future we shall have perfectly proportioned flowers with all the size of Trojana and Macrantha. Such, indeed, are already in existence, and they demonstrate beyond question that size is no bar to refinement of form.

The form of the standards still needs much improvement. They are always of less substance than the falls, but they should have enough to stand up stiff and not flop in hot sunshine. They should curve outwards from their base, meeting again at their tips. At present few Irises do more than approximate to this ideal, and I do not see any special tendency yet to an improvement in this direction. But when such flowers, having finely arching standards, are compared with those having flatter or overlapping or open or erect standards and it is realised how essential this character is to the beauty of form, its selection will be more carefully attended to in the future. The falls are more nearly approaching perfection, in smoothness and in outline. Their disposition gives scope for varying types—the flat hanging, the rounded drooping, and the spreading or "flaring" (to use the American term). The standards with revolute edges displaying the interior of the flower is often an effective and beautiful type, especially when the style arms are of a contrasting colour, and this form strengthens the standards though it gives a narrower appearance to the flower.

Even the type with open cupped standards is sometimes pleasing when it is accompanied, as it usually is, with broad-hafted spreading falls. All these types are being developed, but not, I think, with any definite selection.

It is in the colouring that the greatest general advance has been already made, and yet it is also in colour that we may expect the most important developments in the near future. The richness of the colouring of the falls of the most recent varieties and seedlings already in existence far surpasses anything seen in all but a very few of the old varieties, such as Jaquesiana or Maori King, and this richness is accompanied by a velvety or satiny surface which seems very likely to be due to their extra substance. This will undoubtedly be a feature of all Irises in the future. In all the self flowers we have, now, purer and brighter colours, but there is still scope in this direction, especially in deeper coloured self-violet pallidas, and these may be expected very soon. The range of colour is also extending, and colours are now beginning to appear (as in many other florists' flowers since the adoption of Mendelian methods in breeding) of art blends, soft and delicate in the standards, contrasting harmoniously with warmer, richer tones in the falls. Vilmorin's Isoline, Mount Penn, Wyomissing and others of Mr. Farr's seedlings, M. Denis' Troost and Deuil de Valery Mayet, and, in deeper tones, Vilmorin's Opera are examples, and are being added to and surpassed.

IN AN IRIS GARDEN.

Among other new colour developments may be mentioned Miss Sturtevant's Shekinah, a luminous yellow self of pallida form and habit, and Citronella with soft yellow standards and crimson veined falls, also of pallida size and form and exceptionally free flowering. From these it is only a step to a true yellow-ground plicata—in fact, a slightly different but similar series of crosses such as produced these should produce it, and it may be even now in existence. Plicatas are now appearing in giant size and more perfect form, and with a wide range of margin colour and often finely spotted. Flowers with yellow standards and white falls are likely to appear some day. Crusader and Blue Bird show that we may hope for a flower at least as near blue as the Monspur or the Sibirica sanguinea hybrids, and though the crimson Iris is still far off, we may at least hope for a substantial advance towards it in the near future.

All these forecasts are, in the light of the knowledge that Mendel's laws have given us, well within sight. There are other possibilities, hints of which have been given by chance seedlings—that may perhaps be mutations—which may be realised some day but in the more distant future. I will mention but one. The seedling I have named Samite, a self-cream white, is remarkable in several characters, and I hoped to get new types from it, but all the more obvious crosses that I made were failures. One chance cross, however, most unexpectedly produced a series of seedlings, all of which [illegible] less of the Tigridia type [illegible]

standards and very broad falls spreading almost horizontally, and some with abnormally broad hafts that, together, almost formed a cup, as in Tigridia. Furthermore, the hafts are covered with comparatively large and defined spots. The resemblance to a Tigridia is certainly far away, especially in colour, but it is suggestive. And it is from such suggestions that our flowers give us that new types come rather than from our unaided imagination. At any rate, it is safe to say that for all the great improvements already obtained the Iris is yet only at the outset of its career, and there are still infinite possibilities of its development.

A. J. Bliss.

Plant Fertilisation from the Air

Being an account of recent experiments with carbonic acid gas, which are stated to show that an excess of pure carbon di-oxide, while harmful to animal life, has very beneficial effects on vegetation.

THE subject of manuring crops or plants is always interesting to the horticulturist, amateur or professional. Those of us who can look back half a century have noted the rapid strides that have been made in the science of supplying to each crop or plant the exact chemical that is most needed for its growth and structure, but this has hitherto always been accomplished through the *roots*.

Organic manure is unlikely to be superseded as a base, for it supplies the humus in the soil, the disintegrated product of decomposed straw, leaves and vegetable refuse. So far chemistry has not produced any synthetic equivalent for this, so that its value remains unimpaired.

The air is, we know, very rich in nitrogen, but it cannot in its gaseous state be absorbed by the plant. A small portion is, by the agency of rain and moisture in the air, converted into ammonia in the soil and is quickly seized upon by the roots of plants.

Carbonic acid gas, always present in our air, can be, and is, absorbed and broken up above ground by the plant itself. The green leaves of plants are in themselves a wonderful laboratory wherein the chemical reaction takes place, the carbon being absorbed by and into the structure of the plant while the oxygen is liberated, and it is of this wonderful process of collecting materials from the air that I wish to speak.

The normal quantity of carbonic acid gas or carbon di-oxide in the air is somewhere about 0.03 per cent., a minute quantity, and yet if this is much exceeded the effect on animal life is disastrous and a large quantity is absolutely fatal. It appears, however, from experiments that plant life will thrive and flourish luxuriantly in an atmosphere impregnated with five or six times the normal quantity.

As far back as 1902 Messrs. Brown and Escombe published a paper giving the results of experiments in using carbonic acid gas on growing plants by raising the content of the carbonic acid in the air of the glasshouse to 11½ parts per 10,000, but the results were not satisfactory. There is no mention of the gas being purified, so that impurities present in the gas would account for the misleading results.

Later Demoussy also made experiments with an increased amount of carbonic acid in the air, and found that of sixteen different kinds of plants grown in a mixture of 15 parts carbonic acid in 10,000 all except one showed improved condition to an average value of 60 per cent.

Experiments by Kisselew, where the gas was purified and the carbonic acid content raised to 17 parts per 10,000, the plants so treated, as compared with the controls, showed thicker stems, denser foliage, large flowers, earlier flowering and increased weight, while the species of plant that failed to respond to the Demoussy treatment was no exception to the general improvement.

I have just had the pleasure of a long conversation with a friend who has been permitted to inspect these last experiments, although I believe at the place I have in mind the experimental stage is passed and the process of "gassing" plants is being put into commercial use in a most satisfactory way. Certainly if all he tells me is true—and there appears no reason to doubt—the results are not only extremely interesting, but of the highest value both for private and commercial work.

Briefly the process of fertilising plants from the air and increasing the crop from 150 to 300 per cent., as is claimed, consists of purifying carbon di-oxide as it comes from the greenhouse fire or stove, lighted for the purpose, and passing it after purification into the glasshouse by means of a perforated pipe. The plants readily absorb the gas and respond with increased leaf, fruit and flower.

As carbon di-oxide is a waste product and is belched forth in millions of cubic feet from a multitude of chimney stacks; as, moreover, the purification is, I understand, a simple and inexpensive matter, there seems a great opening for the development of this process. My friend tells me, in addition, that where the gas is used in glasshouses no insect life survives, the plants are fumigated as well as fertilised.

Carbon di-oxide being so much heavier than air, the process can be carried on quite well outdoors. The gas falls to the ground and is carried slowly among the crop.

The experiments have not, unfortunately, been carried out in this country, but now the results are known and vouched for, there should be no hesitation in applying tests to demonstrate that crops and plants will live and thrive and yield greatly increased crops in an atmosphere that is impregnated with large quantities of carbonic acid gas, a waste product that can be had for nothing but the cost of purification and delivery.

I understand that the matter is being laid before some of our big commercial firms and various research stations throughout the country. At the same time if some enterprising amateur would install the process and allow its practical working to be thoroughly tested much good might accrue, as in times of trade depression every ounce of help is valuable. It would indeed be an achievement if by means of a waste product the yield of glasshouse or garden could be largely increased and at the same time the air we breathe kept free from a harmful gas liberated by every fire that burns.

S. Warner Hagen.

FORTHCOMING EVENTS.

November 8.—Birmingham Chrysanthemum Show (three days).

November 9.—Heathfield Autumn Show.

November 10.—Notts Chrysanthemum Show (two days).

VEGETABLE MANUR

Its ever increasing importance and how to prepare and utilise it.

VEGETABLE manure, consisting as does of rotted vegetable refuse, includ lawn mowings, is a greatly neglec manure. It is an important sou of humus, however, and this y with animal manure being so expensive difficult to get full use should be made of it.

Quite distinct in its application and use vegetable manure from leaf-mould. It is seldo for example, that rotted vegetable refuse is u as an ingredient for potting soils, though v old decomposed grass mowings can be used wh potting Chrysanthemums or Tomatoes.

Vegetable manure is also quite distinct fr green manure. In the last case the green cr are dug into the ground in a fresh state, wher in applying vegetable manure the digging in well decomposed material gives the most sat factory results.

Hints on Preparation.—The making a using of vegetable manure has dropped into d repute lately, especially among amateurs, owi to unsuitable materials being used. One wou hardly think it necessary to point out to expe enced gardeners that every class of green grow cannot be made into vegetable manure, but is a fact that most of them when they are real keen on it expect any kind of greenery to decompo into stuff fit to dig in. Potato tops, Bean stall weeds with creeping underground stems, t roots or well ripened seed-heads—just the ve materials which should *not* be used—are all throw in with the soft vegetable manure. Such mixture naturally takes a long time to decompos and there is no wonder that its use gives unsati factory results.

When clearing up the garden in the autum therefore, two heaps should be made of the gre material, the first for the woody portions of flowe and vegetables, Potato tops, seeding weeds an the like, which should be quickly burnt to g them out of the way; and the second for sof leaved seedless weeds of all kinds, so long a they have no creeping roots, etc, grass cutting outer leaves of vegetables, and that admixtu of materials which after all consists chiefly leaves and stems popularly known as "pottin bench refuse."

Having cremated the hard woody portions o our garden refuse, what are we to do to tur the soft portions into manure at the earlies possible date? It is advisable to dig a large hol if there is no proper manure pit. The materia should be shot in a small quantity at a time well dusting it over with burnt refuse ashes basic slag, reverted superphosphates, salt, soo or lime. Some people use a little of all the ingre dients referred to, but this is obviously wasteful as basic slag, for example, contains a certain amount of free lime, and thus a further dose is not required.

In its comparatively dry state, however, the mixture will not quickly decompose into valuable vegetable manure. It is therefore necessary to give it a thoroughly good soaking either of plain water or preferably strong liquid manure. If no ordinary liquid manure is available, house slops should be used, but the greatest care is necessary that they are not too much diluted, as the greasy soap refuse from them will not be particularly good, either for the manure or for the plants to be grown on land treated with it. Each layer of the material should thus be well soaked with liquid manure, and then with a view

hastening decomposition should be immediately ered up with 1in. or 2ins. of wet soil.

f this process is repeated until all the material been used, the latter will be very much pressed, and this compression seems to hasten omposition. Should there be any fear, how- r, of the material being insufficiently moist, s well to drill a hole in the centre of the heap, in a pipe, and occasionally pour in further ntities of liquid manure.

n two months' time reasonably decent vegetable nure should be produced. The first foot depth so of the material should in any case be removed l thrown aside, as it will not have decomposed ficiently to use. The rest of the pit may be dug out, well broken up with a fork or chopped down with a spade and a little more old lime, chalk, basic slag or any of the materials named above may be mixed in. It is now quite ready for digging-in purposes.

Vegetable manure has been proved by a series of experiments carried on by the present writer to be very suitable both for flowers and vegetables of all kinds. In the case of Pyrethrums and Hollyhocks, however, it is well to avoid salt when making the manure. Generally speaking, it is not considered as rich in plant food as dung is, but if generously treated with strong house slops or liquid manure it proves to be a very efficient substitute. E. T. Ellis.

CORRESPONDENCE

NATIONAL DAFFODIL SOCIETY?

HE BRODIE OF BRODIE asks in The Garden of October 15 what are my views the subject of a National Daffodil Society. ave been in favour of one being started for years l took an active part, along with Mr. Cranfield, getting together a meeting of Daffodil enthusiasts 1912, the outcome of which was that the Council the Royal Horticultural Society undertook to n an Annual Daffodil Show and to publish an nual Year Book. Trusting to the promise of e Council, those who were in favour of a National ciety let the matter drop. We have been badly down. The publication of the Year Book was ddenly dropped for no reason whatever, except the ground of expense! The Council blamed e Daffodil people because they had so many pies left on their shelves, whereas they did nothing atever to make the publication known! The affodil Show has been lamentably mismanaged. n the occasion of the first, exhibitors arrived only find the Hall littered with the remains of some traneous exhibition and practically nothing ready r exhibitors. One result was that the best hibitor of the Daffodil said: "Never again." rom that day to this his flowers have never been en in London. The Council have not learned uch by experience. For the arrangements of e 1920 Show Mr. Herbert Smith and myself ere called in to help. It is only due to Mr. Smith d myself to say that we were not consulted in y way whatever. When I saw the panel of dges on the morning of the Show I ventured to ggest to the Secretary that certain experienced affodil people who were walking about doing thing should be asked to judge too, I was bluntly ld "It is a good thing to have a change." I e it all now. I had not realised the status of the Chef" in such matters. We live and learn. neither my friend Mr. Smith, nor myself are efs, we do know something about how to manage competitive Daffodil show. Hoping to mend ings in 1921 I insisted that if my name was to emain on the Show Committee there must be a eeting of the Committee to select judges and make eneral arrangements for the conduct of the Show. list of people to be asked to judge was drawn up. he Secretary undertook that the staging should be ompleted and ready to be marked out at 2 p.m. n the Monday (the afternoon before the Show). le also undertook that a sufficiency of vases should e provided for the needs of the exhibitors. What appened? Only a few of those who were to be sked to judge were written to. The staging was othing like ready until long past four o'clock and o help of any kind provided for us to get same up. here were nothing like enough vases. Again t is due to Mr. Smith and myself that these facts hould be known, also that we had nothing whatever to do with the inaccurate Show date which was printed on the Schedule. The Council take no real interest in the Daffodil Show. They do not

THE TURQUOISE BERRIES OF VITIS HETEROPHYLLA

even provide the money prizes. I wonder why, when they gave money prizes to noble lords and lesser folk at their Fruit Show. It is a "bit rotten" this differentiation of favours. To sum up, the Council cannot run a competitive Daffodil Show "for nuts." They take no interest in it, and as a result things are not as they should or might be. I, for one, think that the R.H.S. should hold no competitive shows of any kind. Such exhibitions are out of their province and should be left to the enterprise of societies or individuals. Their province lies in encouragement by all means in their power. Can readers wonder, after my experience, and holding these views, that I am in favour of the formation of a National Daffodil Society? Now as to how this object should be attained. Not only have "Ornatus" and The Brodie suggested that it might be brought about by the conversion of the Midland into a National Society, many letters from other Daffodil people have reached me making the same suggestion On the conditions laid down by The Brodie I think this is probably the best way of accomplishing this end. One other condition I should like to make should the conversion become practical politics; that is, that Mr. Herbert Smith should be the first Secretary of the new Society—or shall I say one of the Secretaries, for in my opinion two Shows a year would be necessary, a Southern one, to be held in London, and a Northern one, to be held in Birmingham. The first thing to be done is to find out how far this proposal is approved of by the different Daffodil Societies. Before the war I was in touch with all of them, and I would try to get into touch with those that are still in existence, and pass on the names of their secretaries to our Editor so that he could write and ask for an expression of their opinion, if such a suggestion falls in with the wishes of our Daffodil readers and the Editor himself approves.—Joseph Jacob.

[Our correspondent has written at some length, so that it behoves the Editor to be brief. It is, however, desirable to point out that the above is an *ex parte* statement, albeit a sincere one. The Secretary of the Royal Horticultural Society has been asked for his views on the matter, but has not felt himself called upon to express them—at any rate for publication. It is permissible to state, however, that he agrees with Rev. Jacob that the Daffodil should have a society of its own *if its devotees can finance it.* With such general agreement matters should progress rapidly.—Ed.]

THE FRUITING OF VITIS HETEROPHYLLA.

I THINK you may like to see how well Vitis heterophylla is doing in a Kentish garden. The Vine covers a low wall for about 20ft., and is a mass of berries. I find very few people know it and the turquoise and shaded berries are much admired. It has been in its present place for about fourteen years, and was introduced to me by the late Mr. Bunyard. This hot year seems to have suited it, as it has never fruited so freely before. Vitis Coignetiæ seeds itself freely all over the garden here. Is this usual? A bed of Belladonna Lilies here planted for some twelve years has flowered well this year for the first time. I notice many other readers have had the same experience.—(Mrs.) A. C. Charrington.

AN UNUSUAL OCCURRENCE.

I AM sending you a snapshot of Stephanotis floribunda in fruit. I think it may be of interest to some of your readers, especially Scotch ones, as it is not often we see Stephanotis fruiting in Scotland.—Peter Gordon, *Lennoxlove, N.B.*

[The photograph is not, unfortunately, suitable for reproduction.—Ed.]

CARNATIONS AS WINDOW-BOX PLANTS.

THE free-flowering Carnations mentioned by your correspondent, G. W. Leak (page 533), are a typical alpine product raised mostly by amateurs and are always found in the chalets; that is, cottages with wide, overhanging roofs. One finds them from the Alps of Switzerland to Tyrol, but when brought to lower levels or to plain cottages they are never so great a success. Enterprising nurserymen have tried several times to start exportation, but the plain fact is that these hanging Carnations require special conditions, as already stated. Possibly the humidity of air and the absence of overhead water are the principal factors Yet they are an ancient race and known for more than fifty years. They are intermediate between the Border and Tree Carnation, as they usually produce a few blooms during winter. Dianthus Napoleon III is sometimes grown as a window-box

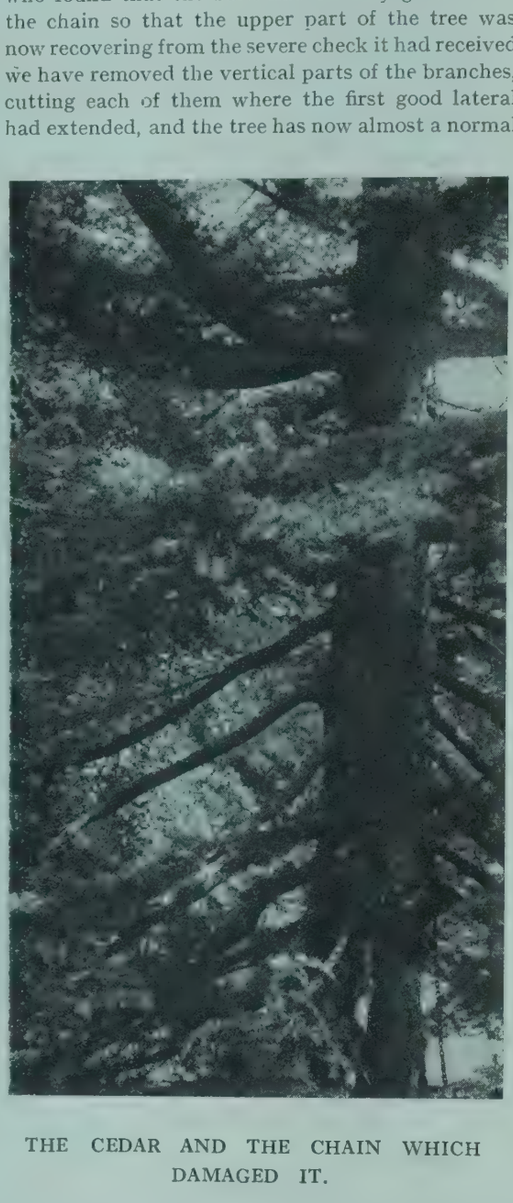
plant, but is not so great a success. The colour range is small: crimson, scarlet, rose, pink and white—only selfs being found. They are worth consideration for the moister districts of Wales and Scotland. Remarkable also is the great age of the plants, ten or more years being not uncommon. —E. RICHLI, *Tatiana, Switzerland.*

LATE SUMMER FLOWERS.

IT is always a pleasure to read Sir Herbert Maxwell's delightful notes in THE GARDEN on his most interesting garden on a Western Seaboard, where so many beautiful plants seem to flourish, that to many of us, in less favoured localities, are not reasonably possible. But it seems strange that Zauschneria californica (I grant the name is somewhat against it) should fail to please and even has to be threatened with summary expulsion. It is beautiful with me in this somewhat cold North-Eastern locality, a little distant from the coast; it usually flowers well and at a time when some colour is badly needed (that is away from the herbaceous border). This season it flowered in the latter part of July and lasted in full flower quite three weeks, and now (October 15), probably owing to the exceptionally fine weather, it is in full flower again. There must be more than one form of the plant, or it is possible that the soil at Monreith is too rich and possibly moist, which might result in the plants going to leaf and not making flowers. I have plants at the end of a bank and on the peak of a bed which is at the top of a dwarf retaining wall. The soil is very poor and dry and they have almost full south aspect. It is too large a plant for any place but the outskirts of the average rock garden, but when well placed and flowered it is quite invaluable, the colour of the flowers being an uncommon red and, to me, personally, quite pleasing. In the late autumn the plants are usually cut short, otherwise in the windy and wet winter months they are apt to break off at the roots. It is quite a pleasure to see Silene Schafta spoken well of; it is both pleasing, hardy and invaluable in the rock garden at a period when it is short of flowering plants. Apart from Zauschneria californica, a fine plant of Erodium corsicum is in full bloom, as it has been for about three months; it is quite the best and most useful of the Erodiums. A plant or two of Sedum spectabile are useful for late flowering; I have a quantity in a border which, oddly, this year flowered towards the end of September instead of the beginning, as is usual. The Vanessas were likewise later, the Red Admiral and Small Tortoiseshell showing up to perfection on the Sedum flowers which always attract any that are about, in addition to the Silver Y moth and countless "bees" and flies. Buddleia variabilis, in spite of being badly cut down in April, came into flower in early August, a month earlier than usual with us and also before the above mentioned butterflies, that are usually attracted to the flowers. A good plant of Œnothera taraxifolia has been in bloom for weeks and is still flowering well with its lovely white, delicately scented blossoms, that open out in the late evening. It is a plant that I have had for years and that has survived attempts to get it out as a "Dandelion"! Oxalis floribunda has excelled itself this summer and is still flowering freely and has been for months; it is quite pretty both in leaf and flower, and if too free at times is easily removed. The Japanese Saxifraga Fortunei is flowering well again, its white many-flowered panicles are extremely beautiful and the narrow petals, which are somewhat *fleur-de-lis* shaped at the ends, vary from five to six, the former having one petal much elongated, and the latter usually two elongated petals.—T. ASHTON LOFTHOUSE, *Middlesbrough.*

A DAMAGED CEDAR.

I AM sending you a photograph of an interesting case of the effect of a chain looped round a Deodar about 50ft. in height, in our garden, by the late tenant about ten years ago. It shows how certain branches just below the constriction have turned up vertically to form leaders when the life of the part above the chain was in danger. The chain is shown hanging to the tree and falling to the ground from the loop, just below which are seen three of the five branches which have turned vertically upwards and, judging from those below, enlarged to three or four times their original diameter. After taking the advice of an expert, who found that the bark had entirely grown over the chain so that the upper part of the tree was now recovering from the severe check it had received we have removed the vertical parts of the branches, cutting each of them where the first good lateral had extended, and the tree has now almost a normal



THE CEDAR AND THE CHAIN WHICH DAMAGED IT.

appearance. The chain has been cut through with a hacksaw at the loop and at a point diagonally opposite, where, luckily, the chain was found by probing to be nearer to the surface than anywhere else, so that now the inner wood is free to expand. It is easy to detect at present the difference in the colour of the foliage above and below the chain, the former being of a distinctly lighter shade, but we hope that this difference will gradually disappear. The enlarged branches, however, will be a subject of speculation in days to come when all traces of the chain will have disappeared.—W. STEPNEY RAWSON.

THE PROPAGATION OF PENTSTEMONS.

A REMARK in your issue of September 24 in the "Gardening for the Week for Northern Gardens," "The dry season causing a scarcity of growth suitable for cuttings of Pentstemons," constrains me to write to you. I have that good cuttings of the finest varieties of stemons are hard to get in any season, and esp so in the past one. To obviate this dra and to provide a plentiful supply of good cu at the proper time I have, in past years, ad the following measures: At planting t generally early in May—those plants not good enough for putting out in beds are pl in an odd corner, but in good soil and situ If flower-spikes should show, these are cut and the plants are induced by a little timely a tion to make good side growths. These capital cuttings, and the convenience of able to put in a quantity at the proper counterbalances any time spent in their f during the season. Having that constitut "kink" peculiar to the outstanding var of most plants, I like to "strike" these var early in September, the assumption that a well rooted plant stands the w better than one inadequately provided on basis. In the early spring, when the surv of the rather "wintry" winters experience this district are making some growth, the p of the plants are pinched out. This oper may have its detractors on the ground of sacri the main flower-stem—always the best one. given subsequent good cultivation the resu three or four good spikes entirely recomp one for the loss. In the growing of Pentster as in every other phase of good gardening, results accruing from deep and thorough cul tion and preparation of the soil are commens with the time and labour expended. Given t unstintedly and the variety be such a on George Home, even the inspired encomium "J. J." but inadequately portray the pictu DEANSTON, *Perthshire.*

THE FLOWERING OF ZAUSCHNE CALIFORNICA.

READING Sir Herbert Maxwell's notes your issue of October 15 last *re* the a plant, led me to wonder if he has the e flowering variety, which I first saw at M Usher in 1909? There it was a glorious thi a full blaze of colour the first week in Aug Since then I have grown both forms side by s but soon discarded the late bloomer, for it o failed to flower, and even when it did, was v poor compared with the other. The on retained began to bloom this year, early in J and was still flowering at the end of Septem It has the hottest, sunniest spot in a very garden. Can anyone inform me if there two forms, or varieties, of Phygelius caper I appear to have such—one with smal narrower leaves, and free flowering; the ot with bolder, larger leaves, a more imposi looking plant, but not as good flowering a one T. O. WALKER.

ZONALS SEEDING OUTDOORS.

AN unusual feature of the great drought is t very free seeding of the bedding Geraniu Two small beds of Harry Hieover and one Coronation I noticed were smothered with fl not unlike Thistledown, which on closer inspecti proved to be ripened seedpods. It will be ve interesting watching these grow up from seed. F. A. D.

"THE FIG TREE OUTDOORS."

IN your issue of September 17 there is an artic —"The Fig Tree Outdoors," by Ow Thomas. I have grown the Black Turkey F here for many years with very great succes two of them growing in the open in the for

ushes. I have never pruned them at all
fruit ripens perfectly. This year I
several hundred Figs and they are not
yet. It is impossible for them to do
In Mr. Thomas' article he says that in
umn a large number of small Figs have
rmed, and these have to be rubbed off.
ng to my experience, this is the only fruit
year; any Figs that form do not ripen until
t year.—F. B. PEMBERTON, *Victoria, British*
ia.

correspondent's note is of interest as showing
t difference between our climate and that
oria, B.C. In the South of England this
en ripens fruit on bushes in the open ground
ese, too, are usually small fruits carried over
—ED.]

S OF VARIETIES OF APPLES AND R STATUS ON THE EXHIBITION TABLE.

S much interested in reading the note on
s subject in THE GARDEN of October 15,
ink the Committee of the R.H.S. were
justified in refusing to accept the types
ned as distinct varieties. Several other
nown sorts are sometimes seen with types
tinct from the ordinary that unless one
y saw them on the tree it would, at any rate
t very close scrutiny, be impossible to
uish them. I have observed this particu-
vith King of the Pippins. In the South of
nd and some of the Border counties this
is sometimes seen of a totally different type
hat grown here in Central Scotland. It is
er and the colour deeper. It is King of
s all the same. This year appears to be essen-
a Cox's Orange year, and this variety also
wo or more types. I was much interested
ing a dish of this Apple at Edinburgh some
ago, which I thought must have been grown
orchard house. I went to the trouble of
ying myself on the point, and was convinced
hey really were grown in the open air in
shire. As regards James Grieve, we have
ear what might easily be taken for at least
ypes, both as regards shape and colour, on
ame tree. Blenheim Orange, facing east, had
al fruits near the top of the wall so highly
red that they would almost pass for Charles
Ribston, growing alongside the Blenheim,
everal fruits which coloured beautifully this
but of course no one would mistake Ribston
nything else. There may be other reasons
hese peculiarities, but I am more and more
nced that the nature of the soil, situation
climatic conditions have a good deal to do
the variations.—P. MCCOWAN, *Stirling.*

STONE SEAT UNDER A WISTARIA BOWER."

E above, of which there was an illustration
n THE GARDEN of October 22, is of my
ing and situated in the playground here.
now being engraved on wood for use in the
edition of the "English Flower Garden."
sh to make clear that for the block in the
glish Flower Garden" I am not indebted
E GARDEN.—W. ROBINSON, *Gravetye.*

When illustrating this seat, from a photograph
h is the copyright of the proprietors of THE
DEN, we had, as a fact, no idea that Mr.
nson had in contemplation to illustrate it
he "English Flower Garden." Had this
known, however, it would probably have
used none the less, owing—if Mr. Robinson
cuse the compliment—to its simple fitness
intrinsic beauty.—ED.]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Dahlias as soon as cut by frost should be lifted, and after being allowed, with some leaves or strawy litter thrown round the roots, to die down at the foot of a wall, should be placed in a cool but frost-proof position for the winter. Salvia patens must also be removed into safe quarters; the tubers do well if placed in boxes of dry sandy soil and kept in a cold frame free from drip. Lobelias of the fulgens type should receive similar treatment

Echeverias.—Where these have been used in connexion with summer bedding they should now receive attention and be placed in boxes in a cold frame, or they will keep quite well outdoors, placed against a wall or building in tiers with sand between the roots, with growths outwards. The work should be so done that when completed rain cannot lodge on the plants. In very severe weather a few mats should be placed over them.

The Kitchen Garden.

Vegetables in Frames, such as Lettuce, Endive, Cauliflowers, late sown Carrots and Parsley, should be kept quite free from weeds, the soil between the plants being frequently stirred, and plenty of air given whenever the weather is favourable. Remove at once all leaves commencing to decay. See that none of the plants suffers from lack of moisture at the root, and always select if possible a bright morning to do the watering.

French Beans still in bearing in unheated frames should be encouraged by careful attention to watering and airing to make a good finish of the crop. On cold nights particular attention should be given that the plants do not receive any check through the lights being insufficiently covered.

Globe Artichokes.—On cold soils during severe winters there is sometimes quite a loss among these plants. To make sure of a good supply for another season a sufficiency of off-sets should now be taken and placed in 6in. or 7in. pots. They should be kept in cold frames for the winter, and if weather be very severe further protection should be given by ashes or other materials. Barely sufficient water should be supplied to keep the plants in a healthy state.

The Hardy Fruit Garden.

The Propagation of Currants and Gooseberries may be taken in hand now, using well ripened shoots of the current year. The cuttings, from 10ins. to 14ins. in length, should be firmly inserted in a bed which has a liberal amount of sand in the compost. The rows should be about a foot apart and the cuttings in the row about 9ins. In the preparation of Black Currant cuttings no buds should be removed previous to insertion, but in the case of Gooseberries and Red and White Currants all buds with the exception of the top-most four or five should be taken out with a sharp knife. The aim in the former case is to encourage as much basal growth as possible, while in the latter to encourage only the top buds to develop. It should be added that some successful growers do not adopt the latter method for Red Currants either.

Plants Under Glass.

Streptocarpus.—As this most useful batch of plants pass out of flower the amount of water must be considerably reduced, but having no tubers or bulbs these Cape Primroses must not be dried off entirely.

Bulbs.—The introduction of the various batches of bulbs into warmth must be guided entirely by the requirements of the establishment. It is always best to allow an extra week rather than otherwise for bringing early supplies into flower. Freesias in particular, when required for early work, resent rushing, and should be brought forward in as cool quarters as circumstances will allow.

Spiræas are useful and easily grown plants for decorative work and a fresh supply of crowns should be potted up if possible each autumn. Procure now and place in pots to suit the size of the clump. Afterwards give a good watering and place in a cold frame where they may remain until required for forcing.

Fruit Under Glass.

Pot Strawberries.—Some protection will be necessary for the pots during severe weather. This may be given either by plunging them up to their rims in spent ashes or leaves in a skeleton pit, or by stacking them in tiers close to a building, crowns outermost, with crevices between the pots filled up with ashes. It is unnecessary so to treat those plants which will form the first batch for forcing. It will be sufficient to place these in cold open frames until they are wanted indoors.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Potatoes in Store.—During wet weather when outdoor work is at a standstill, opportunity should be taken to overhaul the Potatoes that are stored in sheds or cellars. Even when every precaution is taken, the wastage during the winter is considerable. This may be owing to several causes, the most likely being sweating and heating, owing to insufficient ventilation. Another cause is storing when in a wet condition, or decay may be troublesome owing to disease being overlooked in tubers at lifting time. It is not always possible to prevent losses from these causes, but by picking over the heaps at regular intervals the ultimate wastage may be materially reduced.

Rotation of Vegetable Crops.—This matter should now be considered so that the various plots may receive appropriate treatment. Most vegetables enjoy a change of quarters, although it is well known that Onions and Potatoes, with generous treatment, have done well when grown on the same plot for several years. Carrots, Parsnips and Beetroots enjoy a position which has been specially prepared for the previous season's crop, their taproots being particularly sensitive to fresh manure. The cultivation of Celery generally results in the ground being in excellent heart, and most vegetables coming after it do well. A studied rotation will always be of benefit to the crops and of infinite satisfaction to the grower.

Fruit Under Glass.

Early Vines will have ripened their wood and cast their leaves, so should now be pruned and everything put in order for another season. Should that almost ineradicable pest, mealy bug, be troublesome, extra care should be taken when cleaning the rods and washing the woodwork and glass. If necessary, clean off the roughest of the loose bark from the rods, but where there is no vermin a good wash with Gishurst Compound will be sufficient, taking care that the buds are not injured in any way. Should unclean conditions prevail, it is often advisable to go over the rods with the Gishurst mixture a second time, allowing a few days to elapse before doing so. Back walls should also be limewashed and all crevices filled up. I find the refuse of carbide of calcium from the gas plant an excellent wash for this purpose. A light application makes a fine clean surface, while it does not scale off like limewash. Needless to say, it is specially destructive to insect life. The surface soil of the border should be carefully removed and a goodly dusting of fine grade Vine manure given, finishing off with a generous dressing of fibrous loam and wood-ash.

Orchard House.—The latest lot of fruit trees in pots will now be cleared of their crop and ready for standing outdoors for a time so that their wood may be more thoroughly ripened. Repot and top-dress, as advised in a previous issue for earlier lots. Plunge the pots to the rim in leaves or ashes to prevent them being broken by frost.

Plants Under Glass.

Shrubs Suitable for Forcing.—Where conditions allow the forcing of shrubs, the present is a suitable time for potting up the various kinds adapted for the purpose. Staphylea colchica, Cerasus, Deutzias, Lilacs, Viburnums, Wistarias, Azalea mollis and A. rustica fl.-pl. can all be commended for decorative purposes, the double-flowered Azalea rustica especially so, as it is undoubtedly one of the best for forcing purposes; the plants are of vigorous growth, there is great diversity of colours among them, and the flowers are delightfully fragrant. Unlike the single form, this variety is well adapted for cutting purposes. If lifted from the shrubbery or nursery border, cut away the coarse roots and place in suitable sized pots, use any ordinary potting compost, and plunge the pots among leaves or ashes until required

Cypripediums.—Those varieties which are approaching their flowering period will be

by an occasional application of diluted liquid manure. Where grown in a part of the stove or fernery they must be examined regularly and the foliage kept clean and free from insect pests.

Zonal Pelargoniums for Winter Flowering.—Batches of these will now be brightening the conservatory and greenhouse, and although benefiting by judicious feeding, they must not be over-watered, nor must a damp atmosphere be allowed. As the flower trusses are particularly impatient of dampness, keep a buoyant atmosphere, using fire heat as necessary and giving free ventilation on all favourable occasions.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.), *Coodham, Kilmarnock.*

OBITUARY

MR. JAMES GOSSIP.

WE are sorry to have to record the death of Mr. James Gossip, the head of the well known Inverness firm of Messrs. Howden and Co., nursery and seedsmen, Inverness, which took place on October 18. Mr. Gossip was a highly capable man of business. Although he had wide experience in every branch of his extensive business, he specialised in arboriculture and was recognised as an authority on all questions connected with forestry. He will be greatly missed by all interested in arboriculture in the North. Mr. Gossip did not, however, allow these interests to monopolise his attention. He devoted a great deal of time and thought to public affairs. In addition to much work on other bodies, he was an assiduous worker in connexion with Inverness Town Council, on which he served for a number of years. He was Provost of the Burgh for a considerable time. Mr. Gossip was very highly esteemed, and his loss will be much felt by a great number of friends and business associates.

Apple Lord Lambourne.—There was a regrettable error in our report of the Autumn Fruit Show in our issue of the 15th ult. The Apple Lord Lambourne which received recommendation for the Bunyard Cup was raised and exhibited by Messrs. Laxton of Bedford, and not as stated in the report.

The "Daily Mail" Imperial Fruit Show.—This exhibition, which opened on October 28 and closes to-day (November 5), should be of considerable interest to the retail fruiterer as showing some of the best "packs" which are to be found. These endless boxes of Apples, sent by growers from various parts of the Empire—many of them from our English counties—are a little monotonous for folk whose love of garden and orchard is that of the pure amateur. The massed displays of British fruit by practically all the big trade growers and nurserymen, and also the wonderful exhibits of the big Covent Garden salesmen are much more attractive.

Joint Dahlia Trials.—After trial at Wisley the following Dahlias have been, on the recommendation of the Joint Committee of the R.H.S. and N.D.S., given awards of merit: Bianca (sent by C. Turner), pure white, Decorative; Apricot (J. Cheal and Sons), apricot, shaded salmon, Decorative; King of the Autumn (R. H. Bath and Son), terra-cotta, Decorative; Nancy (J. Burrell and Co.), apple blossom pink, Decorative; Crimson Flag (J. Cheal and Sons), fiery crimson, Decorative; Reginald Cory (J. Cheal and Sons), brilliant crimson, tipped white, Decorative; Edina (Dobbie and Co.), cochineal, flushed rose, cactus-petalled, Pæony-flowered; Ladysmith (Dobbie and Co.), violet-rose, Pæony-flowered; Our Annie (Burrell and Co.), shrimp-pink on yellow, miniature Pæony-flowered; Luse (W. Treseder Limited) scarlet, Decorative single; Cyril (W. Treseder Limited), bright crimson, Pompon; Hussar (Dobbie and Co.), intense fiery red, red and white collar, Collarette; White Star (J. Cheal and Sons), pure white, centre orange-yellow, Star; Felicia (C. Turner), bright pink, white base, Star; Surrey Star (J. Cheal and Sons), tangerine, suffused with copper and rose, Star; Leda (C. Turner), orange-crimson, Star; Nerissa* (C. Turner), Bonella* (Dobbie and Co.), the well known old favourite rosy-mauve Pompon; Mars (C. Turner), bright scarlet, Pompon; Albin (Godfrey and Son), Decorative Pæony-flowered; Merlin (C. Turner), Duchess (Dobbie and Co.), bright orange-scarlet, Show; Argos (Dobbie and Co.), dark crimson, dwarf Cactus; Charlotte (Dobbie and Co.), orange-salmon, dwarf Cactus; Tommy Laing (Dobbie and Co.), purple maroon, tipped white, Pompon. The following were highly commended: White Cloud, Mrs. O. M. Courage and Pauline (J. Cheal and Sons); Defiance, Iliad, Enchantress, Rosie and Padre (J. Burrell and Co.); Jean Kerr (W. Atlee Burpee); Rose Princess and Electra (Dickson and Robinson); Bishop Crossley (W. Treseder Limited); Linnet, Mountaineer, Little Jim and Hetty (Dobbie and Co.); Ladas, Lisette, Hildegarde and Orpheus (C. Turner); Toreador, Chenango and La Grosse Bête (J. Scheepers).

Marked * are identical.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

PLANTS FOR RHODODENDRON-BED (T. R., Northallerton).—Any of the Ghent and Mollis Azaleas and Heaths may quite well be associated with the Rhododendrons. The new Rhododendron-bed would provide an excellent place for growing many of the better Liliums, such as chalcedonicum, Martagon, speciosum, bulbiferum and auratum. If a dwarf carpeting shrub is required, the ordinary St. John's Wort would be suitable, or this could be planted as a bordering about 9ins. to 1ft. wide.

SELECTIONS OF ROSES AND OTHER QUESTIONS (T. R., Northallerton).—To name half a dozen or, for that matter, any number of Roses as being the best would be an invidious task even if we were aware of what is required of them and the personal taste of our correspondent. But, generally, we feel that the following are the names of six good Rambler Roses: Albéric Barbier, Dorothy Perkins, Gardenia, Tea Rambler, Lady Godiva and American Pillar; while as six good sorts for the house wall we suggest Climbing Caroline Testout, Gloire de Dijon, Lemon Pillar, Conrad F. Meyer, Grüss an Teplitz and Florence H. Veitch. Vitis inconstans Lowi, a very small-leaved variety of Virginian Creeper, clings well to walls, as also does the commoner Ampelopsis Veitchii. Herbaceous Pæonies are not at all difficult to grow in moderately rich garden soil.

NAMES OF PLANTS.—M. E. P., Wellingborough.—1, Fuchsia triphylla hybrid; 2, Hydrangea Thunbergii.

NAMES OF FRUIT.—H. W. B., Hants.—Apples: 1, Lady Henniker; 2, Round Winter Nonsuch; 3, Annie Elizabeth.——O. Watts.—Apples: 1, Bismarck; 2, Queen Caroline; 3, Belle de Boskoop; 4, Victoria.——F. C. B., Yorks.—Pears: 1, Marie Louise; 2, Louise Bonne de Jersey; 3, Marie Guise; 4, Too decomposed to identify; 5, Beurré Hardy. Apples: 1, Alfriston; 2, Blenheim Orange; 3, Cox's Pomona.——J. Evans.—Apples: 1, Dutch Mignonne; 2, Tower of Glamis; 3, Queen Caroline. Pear Bishop's Thumb.——M. E. P., Wellingborough.—Apples: 1, Ribston Pippin; 2, New Hawthornden; 3, Glory of England; 4 and 5, Lane's Prince Albert; 6, Unable to identify; 7, Pear Doyenné de Merode.——T. F. P.—Apples: 1, Lemon Pippin; 2, Rosemary Russet; 3, Devonshire Quarrenden.——E. W., Birmingham.—Apples: 1, Golden Spire; 2, Emperor Alexander; 3, Lady Henniker; 4, Sandringham; 5, Ribston Pippin; 6, Bramley's Seedling; 7, Pear Thompson's.——F. R. D., Potters Bar.—Pears: 1, Beurré Goubault; 2, Beurré Hardy; 3, Beurré Diel; 4, Apple Alfriston.——H. H. B. Reading.—Apple Emperor Alexander.——T. B., North Devon. — Apples: 1, Boston Russet; 2, Yorkshire Beauty; 3, Winter Peach; 4, Warner's King.——F. R., Salop.—Apples: 1, Withington Fillbasket; 2, New Bess Pool; 3, Ribston Pippin; 4, Queen Caroline; 5, Emperor Alexander; 6, Penny Loaf; 7, Duchess of Oldenburg; 8, Yellow Ingestrie.

Will you please refer to the issues of October and October 29th for descriptive price list of
HYACINTHS, TULIPS & DAFFODI
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CRANBROOK NURSERY, ILFORD, ESSEX
First Quality Bulbs. *Satisfaction Guarante*

ROSES.

DWARF ROSES.—All Free Flowering Garden Var

Collection "A.H.P."

Caroline Testout, silvery salmon pink; large, well f globular flowers.
Edward Mawley, deep velvety crimson, perfectly form
Frau Karl Druschki, pure white, very large.
Hugh Dickson, crimson, shaded scarlet; vigorous g very beautiful.
Mme. E. Herriott ("Daily Mail"), coral red, shaded y mildew-proof foliage, semi-double flower, strong growe
Mme. Jules Bouche, creamy white, blush centre; very
Gorgeous, orange yellow, shaded coppery red, varyi salmon pink; large size bloom, good shape, good hab
Mrs. John Laing, pink, sweet perfume, very hardy, good
Mrs. Wemyss Quin, lemon chrome, tinted orange; deco very fragrant, perpetual flowering, variable in colour.
Ophelia, salmon, shaded bright rose; sweet perfume, habit.
Prince de Bulgarie, rose pink, golden salmon centre.
Richmond, rich red scarlet, large blooms, sweet sc excellent for bedding.

1 of each of these for	21/-	Package
6 " " "	120/-	and carriage
10 " " "	190/-	free.

Collection "A.H.T."

Constance, orange yellow, long bud, streaked crimson.
General McArthur, brilliant crimson, sweet scented, shaped, glossy foliage.
George Dickson, velvety crimson; large, full and per shaped blooms, sweetly perfumed; very strong grower
Mme. Ravary, beautiful golden yellow; long, pointed splendid for bedding.
Hadley, bright crimson, shaded black; large blooms; vig growth.
Lady Hillingdon, deep orange yellow, large petalled b perfect shape.
Mme. Abel Chatenay, bright carmine rose, shaded sal free flowering, medium size blooms, strong stems; o the finest for the garden.
Mme. Melanie Soupert, saffron yellow, suffused carm large flower, long buds; strong grower.
Margaret Dickson Hamill, delicate yellow, back of p flushed carmine; beautiful scent; large blooms.
Marie Adelaide de Luxemburg, deep orange yellow, t apricot.
Mrs. A. Ward, Indian yellow, washed salmon rose; erect
Mrs. Herbert Stevens, white, pink shading.

Prices as Collection "A.H.P."

Any variety of the above Roses at 2/- each, 21/- dozen, the exception of Mme. Abel Chatenay, Mme. Melanie Sou Ophelia, Mrs. Wemyss Quin, Gorgeous and Margaret Di Hamill. These varieties can be had at 2/6 each, 27/- per do

STANDARD ROSES.—Varieties similar to Dwarf Ro
60/- dozen. 230/. for 50. Carriage and package free.

RAMBLER ROSES.—10 distinct varieties, *only the*

2/- each.	17/6 for 10.
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SPECIAL OFFER FOR ONE MONT ONLY—3½-in. Stock ready for potting o plants which will flower this winter.

12 plants, in 12 varieties, 15/-.

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THE GARDEN

No. 2608.—Vol. LXXXV.]

NOTES OF THE WEEK

[November 12, 1921.

LAST week was remarkable in horticultural circles for a "double event" at the Royal Horticultural Hall. The Autumn Orchid Show and a special display of fruiting Barberries made the exhibition n the Tuesday something more than an ordinary Fortnightly," while the two-day Chrysanthemum how later in the week was also a great attraction. t is a little unfortunate that a scientific society ke the R.H.S. (Did someone whisper pseudo-cientific?) should raise a multitude of Barberry eedlings and not be able definitely to state the xact parentage of any one of them. These ybrids were almost all of real garden merit, ut the multiplicity of new varieties which is ractically certain to be sent out will be more han a little confusing to intending purchasers. o return to our muttons, had the "Royal" ept careful records of all crosses made, not only ould the results have been of great scientific nterest, but their careful comparison n the light of Mendelian teaching hould have been of much assistance n further work on the genus.

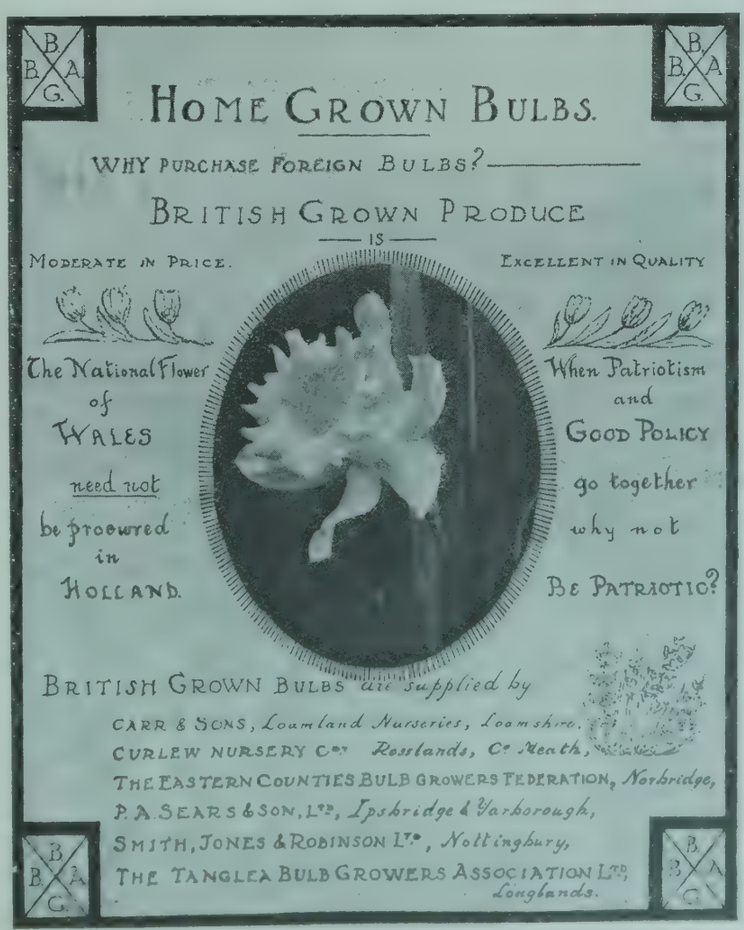
British Bulbs.—Many of the British firms of bulb growers—all of hem for what we know—are in favour f some form of combination for nutual help, especially from the ublicity standpoint. This is not a "trade" paper, so that it is well to eiterate that on our support, as a ation, of home industries our con-inued—or should we say renewed?—prosperity largely depends. The horti-cultural trade may not be a vitally mportant one, but it is the one which comes within our particular purview, and it behoves us to do what in us lies to "push" British goods where they are already excellent and criticise them and "ginger up" the growers where they leave some-thing to be desired.

A Practical Suggestion.—There is obviously something wrong with our bulb growers' publicity departments when many readers appear scarcely to have heard of them or their wares! Believing that an ounce of practice is worth a ton of theory, we now put forward the suggestion that the British bulb firms form an association similar to those already existing in the tyre and electrical trades, for instance, which association might well have general meetings two or three times a year, at which matters of interest to the trade should be brought up by the secretary and, if necessary, discussed, or if this were found inconvenient a journal might perhaps take the place of the meetings. As every firm whose name appeared in the association's advertisements would get the same publicity, the subscription of (or levy from) each firm should be equal. The difficulty of the small firms whose stocks would not warrant their quota towards the common fund could readily be got over either by amalgamation or, perhaps more feasibly, on a co-operative basis with a central sales organisation such as already exists, we believe, in Anglesey.

Do it now!—Some of the firms concerned are very near the centre of matters horticultural. We cannot but feel that if they would bestir themselves something might be done so to thrash the question out that a practical solution would be forthcoming perhaps on somewhat similar lines to those suggested. It must be well understood that such an association would in no way interfere with the individuality of its component firms who might, for instance, severally spend as much (or as little) money on independent advertising as they wished. The British-grown bulb has got to be KNOWN, and it can most inexpensively become known by co-operative advertising. The form which such advertising shall take must be left to the growers themselves. Our readers will no doubt forgive us for on this occasion substituting for the floral picture which usually graces this page a dummy advertisement suggesting—no more—the line which might be taken by the proposed association of growers.

The Entrance Drive.—On page 564 will be found an article on the lay-out of the entrance drive from the point of view of effect. In these days, when everyone in the country districts has recourse to mechanical transport, to say nothing of less mechanical "transports" if troubled at home by dust from the highroad—this is a question of moment to numbers of readers. First impressions go a long way, whether it be with the owner's friends and visitors or with that owner himself when he returns rather jaded from his work or his play. The entrance drive and its surroundings are decidedly worthy of more attention than is usually bestowed upon them.

Not a Weed!—It is rather strange but none the less a fact that there are still numbers of keen amateur gardeners to whom the Michaelmas Daisy represents nothing more than a tenacious and disreputable weed from which they are always striving to free their borders. No plant probably has been more improved of recent years than this one. Certainly no variety to be found in any up to date list of these plants is likely to offend by excessive exuberance of growth. Some, indeed, are almost too close growing to be altogether effective. Varieties such as Climax show more tendency to spread, but there is no difficulty whatever in keeping them within bounds. They are, indeed, far less troublesome when replanting and rearranging a border than are the Herbaceous Phloxes, for instance. The Michaelmas Daisy makes appeal for many other reasons than mere easiness of culture—an easiness which, if the best results are desired, can be over-estimated. The better forms compare very favourably as regards grace with other plants which flower at the same season, so that no garden should be without these beautiful flowers


B.A.G.
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WHY PURCHASE FOREIGN BULBS?
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The National Flower of WALES need not be procured in HOLLAND.
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AN ADVERTISEMENT SOMEWHAT LIKE THIS, BUT BETTER, SHOULD GREATLY BENEFIT A NEGLECTED BRITISH INDUSTRY.

NOTABLE TREES OF THE CALIFORNIAN COAST

The following account of trees in their natural habitat which are favourites in our British gardens should be of general interest.

FOR obvious reasons few coast-lines are rich in arboreal vegetation, and that of California, swept for the most part by fierce trade winds, is no exception. Yet there are some highly ornamental species along that Pacific shore which are quite familiar to our gardens and woods, and a few others which might be more widely known. A brief description of the former as they appear in their native soil may invest them with fresh interest for us, while among the latter it is hoped that our seacoast gardeners may discover suggestions of value during the planting season.

On the Monterey peninsula, a bold headland of no more than four or five square miles, there are two predominant species of conifer, viz., Pinus insignis (Monterey Pine) and Cupressus macrocarpa (Monterey Cypress). Though these trees are so familiar in cultivation in most parts of the civilised world, it is only on the limited area of this peninsula that they exist in a natural state. I believe there are one or two small groups still remaining as isolated outposts on rocky islands further down the coast, but the Monterey group constitutes the last native stronghold of these two conifers.

It is a stronghold that doubtless at one time stood far inland, but the whole of the remainder of what was presumably once a great forest of Pine and Cypress has been swallowed up by the sea, which eternally rages with anything but *pacific* intentions against the white walls which protect the survivors from immediate destruction. The Pines are the better off, for they stand well back from the cliffs. The last of the Cypresses are one by one toppling over, and but a very few specimens of any size remain which are not mangled and distorted by wind and wave.

Though, like C. macrocarpa, P. insignis is not perfectly hardy in all places, it has proved no less effectual than the Cypress as a windbreak on high ground in this country, and it is probable that few other Californian trees have been so widely planted as this one. The almost grassy green of its foliage and dark, rough stems are distinctive features, but it does not attain a great height, few, if any, specimens at Monterey exceeding 100ft.

Curiously in contrast with the prevailing brightness of this land of sun and flowers are the Live, or Evergreen, Oaks, and one can never forget the peculiarly heavy green of their low and spreading branches, especially when seen, as they so often are, against the chamois-coloured plains of full summer. Quercus agrifolia is by a long way the commonest species along this coast. It is much like the European Q. Ilex, with a short trunk, grey and beech-like, and sometimes of enormous girth; but both in foliage and fruit considerable variations appear, even on the same tree. I believe Q. agrifolia is grown in Britain, and see no reason why it should not prove a valuable and handsome subject for a wind screen near the coast. There are many places in California so windswept that vegetation would be practically non-existent were it not for this tree, which here makes a low and bushy thicket, hugging the ground.

Arbutus Menziesii, the Madroña of the Pacific littoral, from sub-tropical regions northward to British Columbia, is perhaps the most distinctive of its race. That much may, I think, also be claimed for it in our own gardens, but the Madroña at home, the Madroña that Bret Harte immortalised in one of the happiest of his lyrics, is something more. Whether it is the colour contrast that exists between the terra-cotta of its polished bark and the bright green foliage, its flower clusters and copious grape-like bunches of crimson berries, or the curiously conventional habit of growth so often assumed by old trees, that gives this species so strange a charm one cannot say.

A DRIVE CUT THROUGH PINUS INSIGNIS ON MONTEREY HEAD.

The probability is that all these things are collectively responsible for that peculiar fascination which the Madroña possesses. The extraordinary shapes which are assumed by the crowns of many specimens are enough in themselves to arouse the imagination, for, without apparent cause, the gnarled and corkscrew stump may here be surmounted by an umbrella-like canopy, there by a wisp of foliage all driven one way as by a fierce wind, or, again, by some other fantastic development.

A. Menziesii is not considered as hardy with us as A. Unedo, but of two trees, one of each and both about ten years old, growing side by side in my North Wales garden, the former has never suffered more than the latter, not even in the intense frost of early 1917, when both were singed. But whether A. Menziesii will fruit as freely here as the better known species is doubtful.

Another very distinctive Californian tree, or shrub, is the native Buckeye (Æsculus californica), more particularly since deciduous species are comparatively uncommon in that country. As a matter of fact, this Buckeye seems to have wandered beyond its territorial limits, for at certain seasons when you come across it on the more northerly foot-hills its appearance suggests that of a stranger in a strange land to whose ways it has not grown accustomed.

It is like this: all goes well with the Buckeye in early summer when its crown of rich green foliage is adorned with hundreds of showy flower-heads, pinky white and very fragrant. But the heat of full summer is more than it is prepared to stand. Its leaves droop in early July, turn crisp and brown and fall, and shortly afterwards the branches, though still bearing their pear-shaped "chestnuts," are grey and naked under the summer sun and carefully wrapping their buds against the winter that never comes—not as Horse Chestnuts of colder climes generally know it at any rate.

A. californica does not grow much more than 20ft. high in its own country, and one may often see acres of it of not more than half that height. As an ornamental subject it is well worthy of being better known in our own gardens, and it should be hardy enough almost anywhere.

The Californian Laurel (Umbellularia californica, syn. Oreodaphne) is a species which also deserves fuller consideration as a seaside evergreen with us, for it will do in poor, light soil, the colour is good, and it is an excellent wind resister. In its native land it varies greatly in form, according to habitat. coast specimens being of low stature, thick set and dense as a clipped Yew hedge, while those inland often reach to 100ft. in height, when they are much esteemed as hard-wood timber trees. Round about San Francisco Bay and many other places the rich green foliage of this species affords a bold contrast to the prevailing dun of the sun-parched hills. The leaves of U. californica are much like those of the common Bay, but narrower, and have a very similar, if even more aromatic, odour. The flowers, yellowish green and insignificant, are borne in large clusters, and followed by nutmeg-shaped fruits which are about

in, long, green at first, changing when ripe to reddish purple.

Though the Pines are the most numerous in species, the most widely distributed and most valuable of all Californian trees, they come beyond my scope here, since all the noblest and more important species inhabit the great upland ranges,

A GLADE OF QUERCUS AGRIFOLIA IN CALIFORNIA.

some ascending to altitudes of 7,000ft. or 8,000ft. However, one notable exception has been alluded to, and I may conclude, as I began, with yet another of this wonderful family, a true long-shore conifer. This is Pinus contorta, of Douglas, locally known as the Beach Pine, for the obvious reason that it inhabits the sandy dunes along the brink of the sea. Here this species does not often raise its curiously irregular and distorted crown of green much more than a dozen feet above the wind-driven sand, and this dwarfed form persists northward to the borders of Alaska.

This little Pine is interesting inasmuch as it appears to be identical with P. Murrayana, which clings to some of the highest peaks of the Sierra Nevada and Rockies, where it often assumes the dignity of a great tree. If the two species are, or were at some remote period, synonymous, as is believed, the instance is a striking example of the many afforded by California (a few of which I have mentioned) that show how certain species have been broken up by geological disruption and separated by distance and altitude so vast that, in adapting themselves to their several environments, the detached groups have become sufficiently altered in form as to be considered worthy of specific distinction. A. T. JOHNSON.

SWEET PEAS IN 1921

THIS has been an unusual season, one such as may never come again in our generation. The early and long drought checked growth and the plants finished several feet below their usual height. During the months of July and August continual watering and feeding were necessary to keep the plants going. The late August rains came too late to produce an abundance of autumn flowers. It has been a season of shreds and patches. Sometimes when the sun was not too powerful the colour was magnificent, cleaner, richer and more uniform than it has been for many years. To judge the vigour of a variety in such a season as this would be almost impossible, to pick out the rarest colours much easier.

I think it will be generally agreed that Royal Scot is one of the finest coloured Sweet Peas of recent years. Its dazzling orange cerise, with a scarlet tinge permeating the entire bloom, gives a vivid touch to the row. The more sunshine it has the more brilliant is the colour. This quality of being absolutely sunproof makes such a rich shade so popular. Royal Scot is an ideal exhibition flower. Trained on a single stem the blooms come large, mostly in fours, and never coarse.

Another dazzling new variety is Sensation, inclining more to the orange scarlets—some might call it orange flame. It must be shaded to be seen at its best, when the beautiful sheen in the standard gives quite a fiery appearance.

Tangerine Improved has been very lovely, grown beneath a canvas canopy in the height of summer. Largest of the pure orange shade, the standard is broad and well frilled and often duplex. Out of doors it seems the strongest orange variety, while under glass it is superb.

Picture is probably the greatest novelty of the year. Its huge flowers, a great number with double and triple standards, are of a rich shade of cream-pink suffused with apricot. I do not know of any, variety to equal it for size, a dozen sprays making quite a large bunch. It will probably become one of the best decorative and exhibition varieties of the near future. It should be in every collection.

Austin Frederick Improved is the most vigorous of all the rosy-tinted lavenders. In the height of the season practically every spray is a four, and the length of stem is remarkable.

Gladys has maintained its reputation as the best of the pure lavenders. There is no rosy tint in any part of the flower, and the clean-looking appearance of its broad-petalled blooms compels admiration. I am glad that the Rev, Joseph Jacob has found it so much to his liking. After all, there will be no need for "pistols for two and coffee for one." I have dispensed with the former and ordered another cup of the latter. Gladys has come to stay.

I am still far from convinced that we have yet seen the best of Hawlmark Pink. One stock that I grew was intense and very beautiful in colour, absolutely true; the other was variable. Neither was it very robust in habit, and I am inclined to think that it is somewhat lacking in vigour. Mr. Thomas Stevenson challenged a remark of mine in an earlier article in THE GARDEN, in which I stated that Hawlmark Pink, growing in my garden in 1920, gave colour variations which, on comparison, resembled a pale Hercules. The phrase might have been misleading. What I meant was that the colour resembled the pink seen in Hercules not that the flowers were of the Hercules type. There is one point upon which I do not agree with Mr. Stevenson. I cannot agree that Hawlmark Pink gives only a deeper and more richly coloured variation—never a paler one. I examined a vase of freshly gathered blooms of Hawlmark Pink on one of the leading trade exhibits at a large show in June. In company with two friends, both of whom are excellent judges of colour, we found not only the pink shade of Hercules, but one or two blooms so pale that they might have been termed blush, and passed muster in a vase of Mrs. Hardcastle Sykes. In spite of its few colour variations Hawlmark Pink gives a large proportion of its flowers with that lovely shade of rich pink, which we seemed to have lost with the decline of Audrey Crier. We shall all continue to grow it till something better, of the same much-sought-after shade comes along.

Doris and Glory have both won many admirers in the pale cerise section, that might be termed cherry pink. Both are vigorous growers. Under artificial light these charming varieties are seen at their best. The flowers glow with a soft lustre that gives a warm touch to the room.

For extreme "frilliness" few Sweet Peas can rival Majestic Cream and Giant Attraction. They have an almost super-Spencer form. It is pleasing to know that this characteristic is being transmitted into many seedlings, which will ultimately become novelties, for the wavy nature of the modern Sweet Pea is one of its greatest charms. Giant Attraction is a warm shade of deep shell pink on a cream ground, and nearly every bloom has a double or triple standard.

Le Mahdi is a new shade of deep aniline blue, not at all like Royal Purple, which variety one might almost think it resembled, seeing that both are in the same colour section. It is a good decorative variety.

Another excellent garden sort is Brilliant, appropriately named. It is a bright shade of deep cerise and is quite sunproof.

Cecily, Fair Lady, Bessie, Caress and the popular Mrs. Hitchcock are all fine types of the pale cream pink Sweet Pea, so beautiful for all decorative work, and one of the most delicate shades we have.

Constance Hinton still leads as the best exhibition white, though Edna May Improved and Anglian White Improved have purer flowers and sometimes longer stems.

Royal Purple, Charity (crimson), Warrior (maroon), Splendour (mahogany), Mrs. Tom Jones (blue), Valentine (blush pink), Elegance (lilac blush) and King Mauve all uphold their reputation as the best in their respective sections.

Annie and Jean Ireland are the pick of the picotees. Eva is a new orange pink that will take a lot of beating for substance of petal and predominance of four bloomed sprays; and if a bi-colour is desired Dora will probably be the favourite.

Jack Cornwall, V.C. and Commander Godsal are about of equal merit in the dark or navy blues. One might grow all the scarlets and fail to find much difference in them.

I do not think that there is much room for complaint in the slight deterioration in fragrance of the newer Sweet Peas. True, the "grandifloras" have a heavier scent, but a freshly gathered bunch of any of the Spencers is sufficiently fragrant. NORMAN LAMBERT

THE LAY-OUT of the ENTRANCE DRIVE

Of the number of small houses which are springing up in rural and semi-rural districts many require a carriage drive. Judging by some of the monstrous treatments to be met with, these notes should not be in vain.

IF drives are set out, in the shape and proportions they are ultimately to take, before the house is built they can have their foundation of rough ballast put in, and the subsequent drawing of materials will consolidate them, especially along the lines of subsequent wear, so that they can, the house completed, be finished off quickly and with reasonable hope of a satisfactory and lasting job.

Where the house is to be set back a considerable distance from the road, consideration of cost and space taken up may probably make a single drive appropriate, unless its position between two highways makes a double approach desirable. If, however, the residence is to lie relatively near the roadway and has sufficient frontage, a pair of curving drives will obviate a great deal of unsightly gravel in the forecourt. The arrangement is more clearly explained in the annexed figure (No. 1). An imposing entrance may sometimes be achieved by using a junction or bend in the public highway as a suitable site for the drive to debouch (see Figs. 2 and 3), while if a beautiful outlook or other consideration necessitates a country mansion being built near the highway on either side of which its lands extend, some treatment such as that shown in Fig. 4 will be far more effective than short disproportionate drives could be. A good exemplification of this idea may be seen at the Tudor mansion known as Packwood House in Warwickshire. But in planning the drive and, indeed, in all planning, it should never be forgotten that since our climate is unsuitable to the use of brilliant colour it is the more essential that we take care to get everything harmoniously proportioned. Short, wide drives and long narrow ones are alike bad, but the short, bloated one, since one sees it all at once, gives the worst impression. No effort should be spared to avoid it.

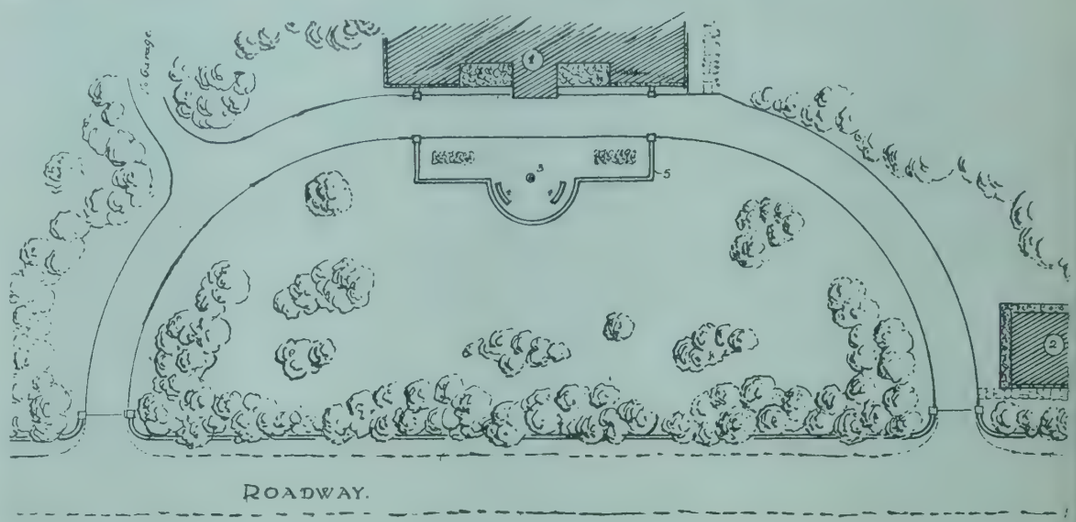


FIG 1.—SHOWS THE DOUBLE ENTRANCE SWEEP.
1, *The house*; 2, *Lodge*; 3, *Sundial*; 4, *Seats*; 5, *Terrace Wall.*

A little consideration will show that a very short drive need not be wide, since there should be no necessity for vehicles to pass in its length. Long, straight drives are usually defined by avenues of ornamental trees, single avenues being in more general use, but double ones are also met with. The trees most suitable for this purpose are the Lime, Sycamore, Horse Chestnut, Cedar and Scotch or Douglas Firs. Of the last mentioned the Colorado variety for its richer colour and denser growth should have preference. On soil where they attain perfection Oaks are very beautiful for this purpose, but they are seldom now planted owing to their slowness of growth. Elms grow more quickly and make a splendid avenue, but one which has taken several generations to grow may be, and often is, reduced to ruins by a single storm. The avenue is essentially a treatment for a drive passing through park-land. For a shorter carriage-way through the more elaborately treated gardens, a shrubbery of sorts is a more usual solution and, properly applied, a quite satisfactory one, but assuredly few subjects in a garden are more abused. How often does this same shrubbery consist mainly of the specimens some nurseryman is overstocked with arranged to form a "higgledy-piggledy" heterogenous medley forming a border 8ft., 10ft. or 12ft. wide and with its front edge abutting directly on the drive?

Such a border dotted over with single plants of Cupressus Lawsoniana and a collection of Aucubas and common flowering shrubs looks horribly spotty when first planted. As it grows up it may look reasonably furnished for a year or so; then, in order to prevent its encroachment on the drive, it must either be drastically renovated or it will more and more resemble a shapeless wall of greenery spotted in early summer with a few scattered stars of bloom.

The importance of first impressions cannot be exaggerated, and a suitable and, if possible, unusual environment of trees and shrubs should be worth some pains to achieve. It is impossible in brief

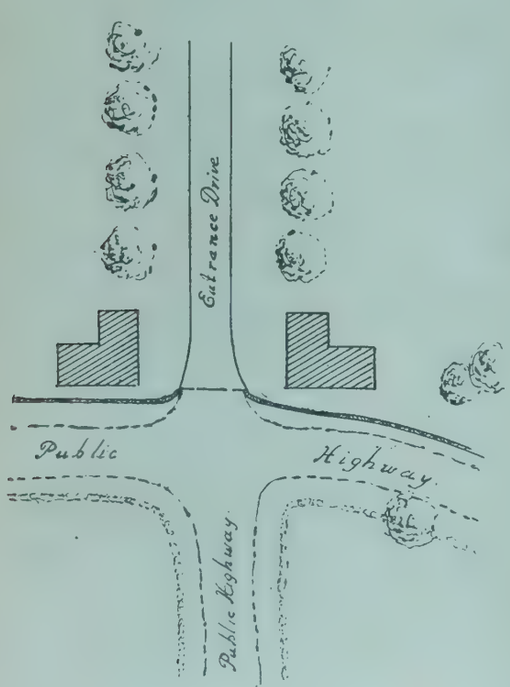


FIG. 2.—ILLUSTRATES A FORTUNATE POSITION FOR AN ENTRANCE DRIVE.

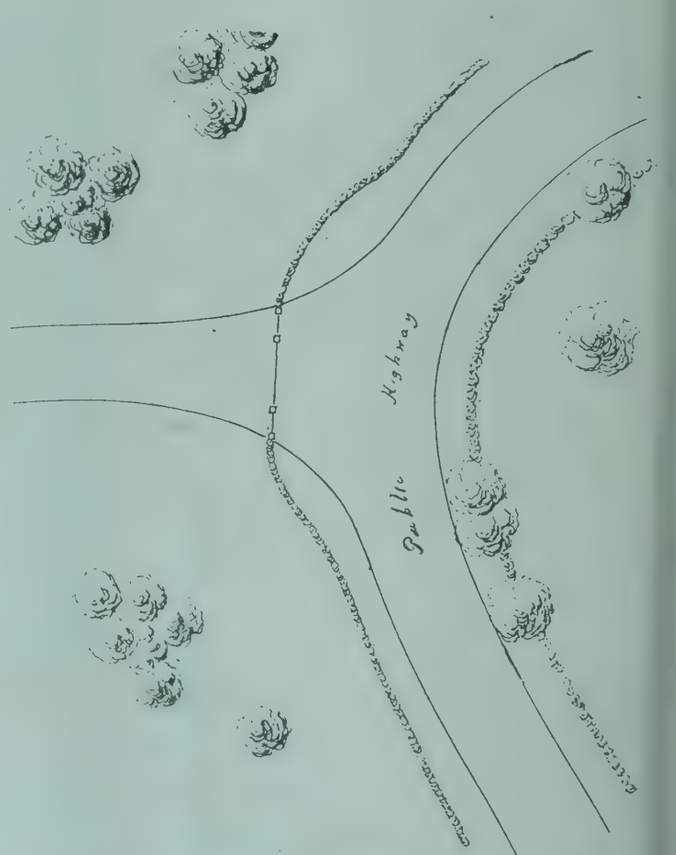


FIG. 3.—IS AN EQUALLY HAPPY ARRANGEMENT WHICH CAN MORE FREQUENTLY BE CARRIED OUT IN PRACTICE.

otes such as these adequately to explore suitable rrangements for all conceivable situations, but peaking generally, unless the drive is, for the sake f easy approach, cut through precipitous banks, t will be well to allow broad grass verges on either ide, and beside these to arrange a shrubbery of, where ground allows, considerable width, broken n a place or so it may be to disclose more distant eautiful groups of trees and shrubs unified with he nearer shrubbery by a stretch of well-kept lawn.

And now for the planting of the shrubbery. It may be thought desirable to associate with grouping of Firs, Cedars, Cypresses and Junipers ome class of plants for which the soil is specially uitable, thus over the larger part of Surrey the Birch and certain Heaths are indigenous, and the Scotch Fir is so common and sows itself so freely as almost to be called so.

How charming then boldly to group Scotch Firs, dotting the margins of the clumps with the graceful Silver Birch and completing the grouping with brave masses of Rhododendrons, Azaleas, Kalmias and other American plants interspersed with masses of lower grouping Ericaceous plants. Fig. 5 will serve to illustrate the treatment suggested.

There is a great deal in suiting planting to its environment. On the hills of Buckinghamshire, whose stiff soil produces a landscape of Beech and Maple, these trees should, wherever space allows, be incorporated in the garden scheme, and where dark background is desired, Austrian Pines should be employed rather than Scotch Firs. Thorns and Flowering Apples and Siberian Crabs, Peaches, Almonds, Cherries and Plums will all succeed and be in keeping, while broad groupings of Rose species, Penzance Briars and semi-wild varieties such as Conrad F. Meyer, Alister Stella Gray, Griiss an Teplitz, Irish Elegance, etc., will be invaluable.

In the more fertile and park-like counties the pyramidal Wellingtonias, Junipers, Cypresses, Irish Yews and Thuyas may be used effectively, as well as Cedars and the choicer Firs, such as Parryana glauca, concolor, Nordmanniana and nobilis; and with the flowering trees mentioned above, Lilac, Broom and, most valuable of all, masses of the evergreen Barberries may be used. These last are accommodating shrubs, and because of their hardiness and rich evergreen foliage, are useful for all soils, but a sweet soil, not too heavy, displays them to the greatest perfection.

Whatever scheme of planting be decided upon let it always be borne in mind the most beautiful

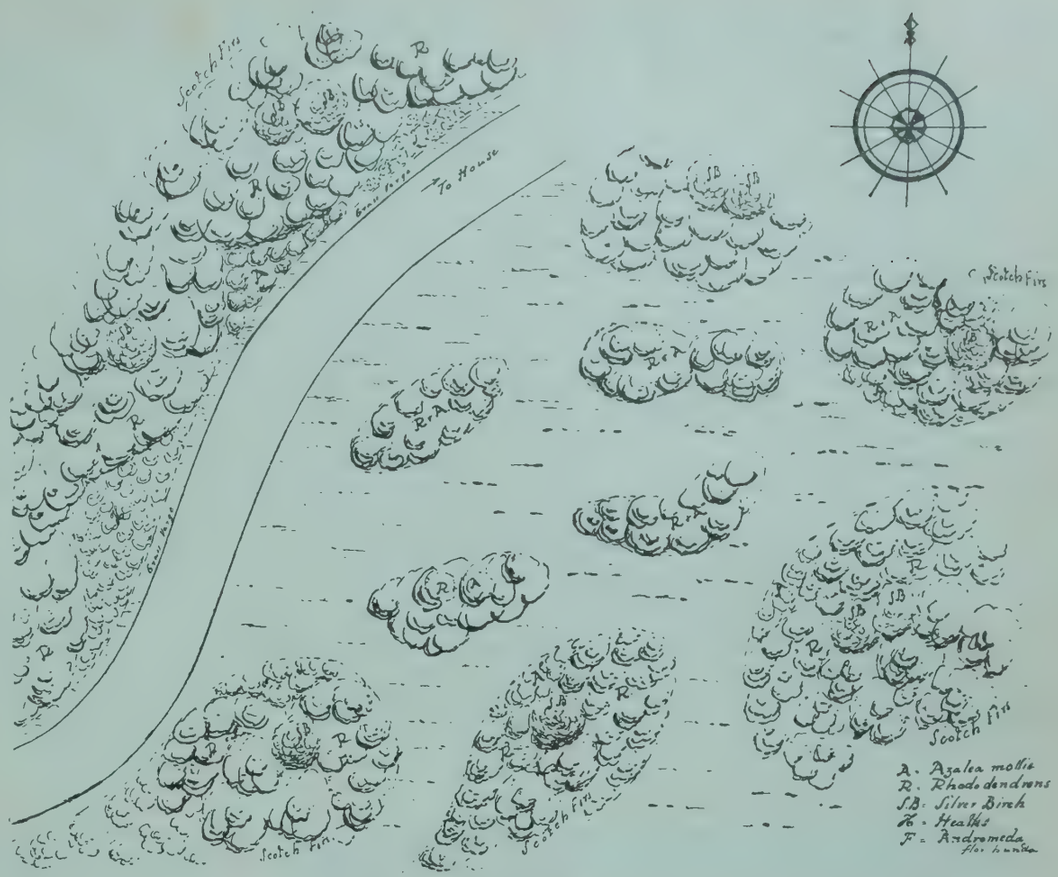


FIG. 5.—SHOWS AN ARRANGEMENT OF SHRUBBERY AND LAWN WITH SUGGESTIONS FOR PLANTING.

curves of bed or border, the subtlest lines of contour in the mounded masses of planting, will be of little avail if unbacked by that strength which trees of some size alone can provide. Whether these are to be spreading or aspiring, deciduous or evergreen, coniferous or otherwise, both or all should depend to great extent upon the surrounding landscape; but harmony and contrast, alike in colouring and form, should always be sought for—must, indeed, be attained before such effect can be produced as we should desire. The contouring of the roadway itself and its verges, even the grading of the drive for drainage may be made to assist the general effect. Conversely, a roadway badly contoured and clumsily graded will destroy or greatly impair the beauty of what would otherwise be a charming picture.

Without particularising further it will be well to call attention to a few shrubs not hitherto mentioned which, arranged in bold and shapely masses, and accommodated in an appropriate setting with a suitable rooting medium, have noteworthy beauty and dignity. These are Japanese Maples, Exochordas, Spartium junceum, Weigelas, such Spiræas as ariæfolia, prunifolia and, perhaps, one or two others (most Spiræas are "dot" plants or suitable only for quite small

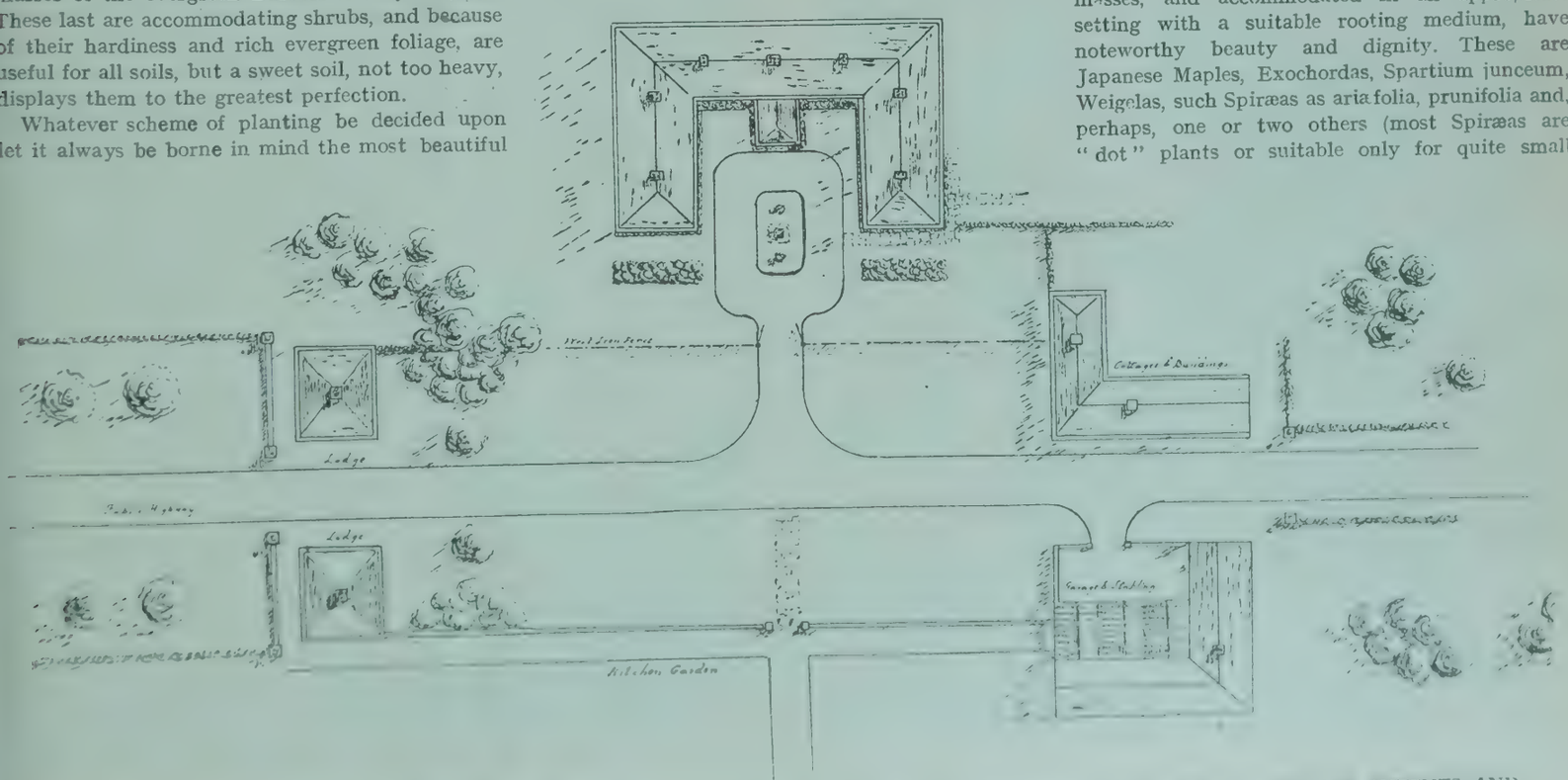


FIG. 4.—BY JUDICIOUSLY THROWING OPEN THE FORECOURT TO THE PUBLIC HIGHWAY THE LATTER IS TO ALL INTENTS AND PURPOSES CONVERTED INTO AN ENTRANCE DRIVE.

clumps), Viburnums, especially the wild Lantana Dogwoods Veronica salicifolia, some varieties of Rubus and Cistus, Flowering Currants, Escallonias, Olearias, Laburnums, Acacias, Polygonums, Wistarias, Rowans, and Green Hollies, especially Ilex laurifolius.

Barberries and Orchids at Westminster

ORCHIDS and Berberises were the prominent features of an unusually good show at Vincent Square on November 1st. Apparently there was a silver cup offered for competition among amateur Orchid growers, but there does not seem to be any mention of it in the current book of arrangements. This must, however, have been known to certain orchidists, for there were many admirable collections on view. The large cup was won by Baron Schröder, who had a superb collection especially noteworthy for the excellence of the Cattleyas and Cattleya hybrids and a fine batch of Cypripedium Maudiæ. In the front there was a handsome plant of Brasso-Cattleya Amber variety Dorothy, of golden colour enhanced by rosy lilac lines on the lip. Dr. Miguel Lacroze also had a beautiful group of Orchids. His Cattleyas, Odontoglossums, Oncidiums and Cypripediums were particularly good.

Sir Jeremiah Colman was awarded a gold medal for a magnificent collection which was especially rich in Cattleyas. In fact, it was largely the day of these handsome Orchids, which also appeared in quantity in the nurserymen's groups, particularly that by Messrs. A. and J. McBean, who also won a gold medal.

To the lover of hardy gardening it was the many and varied Berberises that appealed most. There was a great variety to choose from. The Society sent from the Wisley Gardens a selection of hybrids of which three received awards of merit and several more were equally worthy of that honour. Messrs. J. Cheal and Son had another interesting collection. Messrs. Wallace and Co. also included various sorts in a large group of hardy shrubs, and Lady Aberconway sent cut sprays from her garden at Bodnant, North Wales.

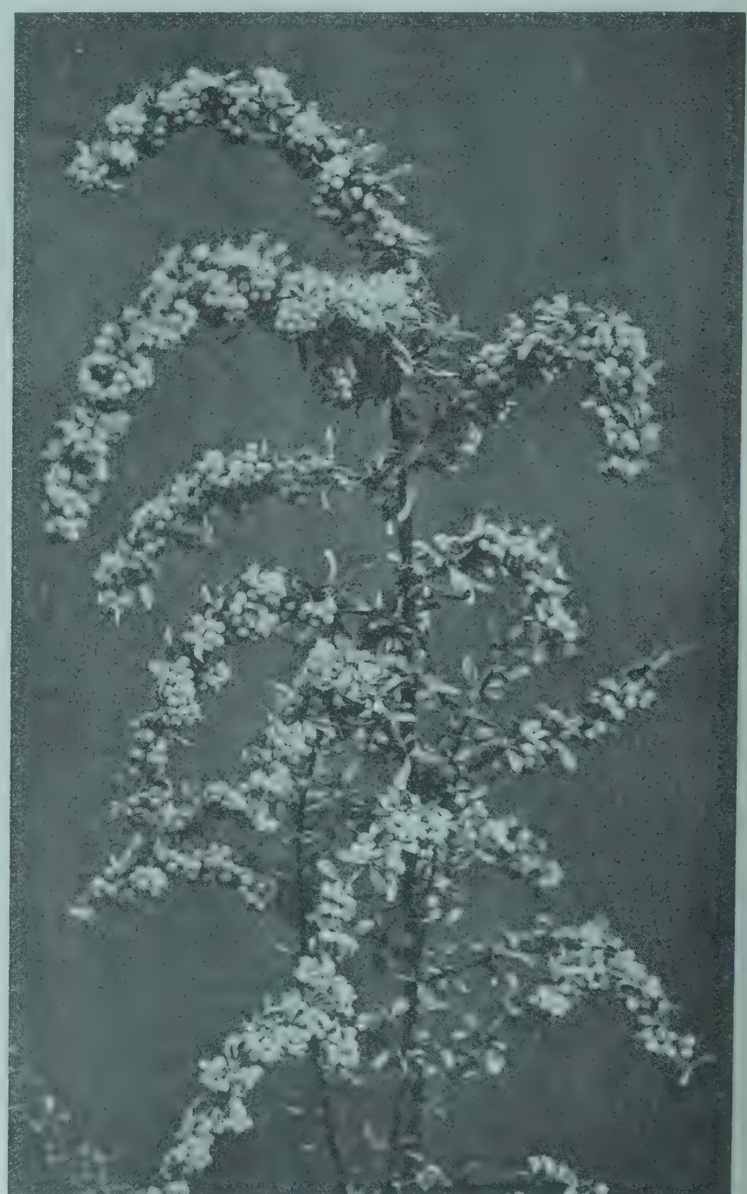
In the R.H.S. collection there was no general attempt at naming the hybrids; the Society was content to show them in their groups—the Polyantha, Wilsonæ and rubrostilla groups. Many visitors gazed at them in bewilderment and begged each other for information about them, without availing much. It did not seem to have struck the Council that it would have been advisable to have someone on the spot able and willing to impart information concerning their exhibit and its object. The few little name cards were totally inadequate. Possibly full information was given at the "Informal Conference," but only a very small proportion of the Fellows attend such gatherings. Many of the Barberries were brilliantly beautiful, and they displayed an interesting variation of habit as well as of foliage and berries. Several, also, are of value in that they combine the full glory of autumn colouring with vivid fruits.

The adjoining and equally interesting R.H.S. collection of Fire Thorns was better served in the matter of names. There one could at once see that the graceful sprays, thickly studded with bright yellow berries, was named Pyracantha Rodgersiana flava, that the red-fruited variety was P. Gibbsii, and that the sprays bearing small strap-shaped leaves was P. angustifolia.

In Messrs. Cheal's collection there were many interesting and valuable dwarf sorts, as well as the more general types, of which the old Berberis Thunbergii had the most brilliant foliage.

Lady Aberconway's little collection included sprays of Berberis Prattii, B. virescens, B. yunnanensis and B. dictophylla, the last named being of uncommon appearance by reason of the vivid silveriness of the undersides of its leaves and the stout, almost horizontal side shoots. The

BERBERIS × THE SPARKLER.
Is reminiscent in habit of growth of the well known B. Darwinii.



BERBERIS × FIREFLAME.
In its rather more yielding outlines might be compared to B. stenophylla.

ecimens had not yet assumed their rich autumn louring.

It must surely be a record to have outdoor oses on show in November, but on the present casion Mr. E. J. Hicks and the Rev. J. H. emberton both had charming collections. The eneral, Mary Monro, Ophelia, Pharisäer, Mrs. ornby Lewis and Mrs. W. Christie-Miller are the ames of only a few of the beautiful Roses to be en.

Glasshouse plants were represented by a gold edal collection of winter flowering Begonias y Sir C. Nall-Cain, varied stove plants by Messrs. . R. Russell and cut Carnations by several growers. he Begonias were excellently grown and made a reat range of colours. The chief varieties were ptima, Elatior, Exquisite, Eclipse and Emita.

Anticipating the annual show of the National hrysanthemum Society two days later, several rowers set up collections. Mr. H. J. Jones had uch a magnificent group as to win a gold medal. ut this and the others will be commented upon n due course.

Fruit was in the form of sixteen dishes of superb Doyenne du Comice Pears from Lady Petre, Vestwick, and Messrs. Isaac House's new Apple ohn Standish, which was highly commended for narket purposes.

NEW AND RARE PLANTS

Chrysanthemum Horsham Amber.—A reflexed Japanese variety of market size and good form. It bears really good flowers of true amber colour n trusses of six to ten blooms. Award of merit o Mr. Riley Scott.

Geranium Rossway Crimson.—This is a bedding Geranium which will also be of value for pot cultivation. The three plants were particularly well flowered. It bears a medium-sized truss of light crimson flowers. The leaves have no zone on them as is the case with many of the type. It might be described as of "Jacoby" type. Award of merit to Major-General Sir C. J. Hodden.

Berberis Autumn Cheer.—This hybrid was selected from the Polyantha group shown by the Society. It is of graceful habit and apparently of medium size, and combines both autumn colouring and freedom in fruiting. The berries are borne in thick clusters and their *rose dorée* colour is shaded by light powdering. Award of merit.

B. Fireflame.—In habit this is much after B. stenophylla. The branches are fairly slender and arch at the tips. It is one of the rubrostilla hybrids, and has dense clusters of small round, red berries. The leaves were green. Award of merit.

B. Sparkler.—Another rubrostilla hybrid, and one that approximates to B. Darwinii in general habit. The coral pink berries are what may be termed inverted pear shape and borne in fair-sized clusters. The small leaves are not coloured. Award of merit.

A NEW CHINESE PYRACANTH

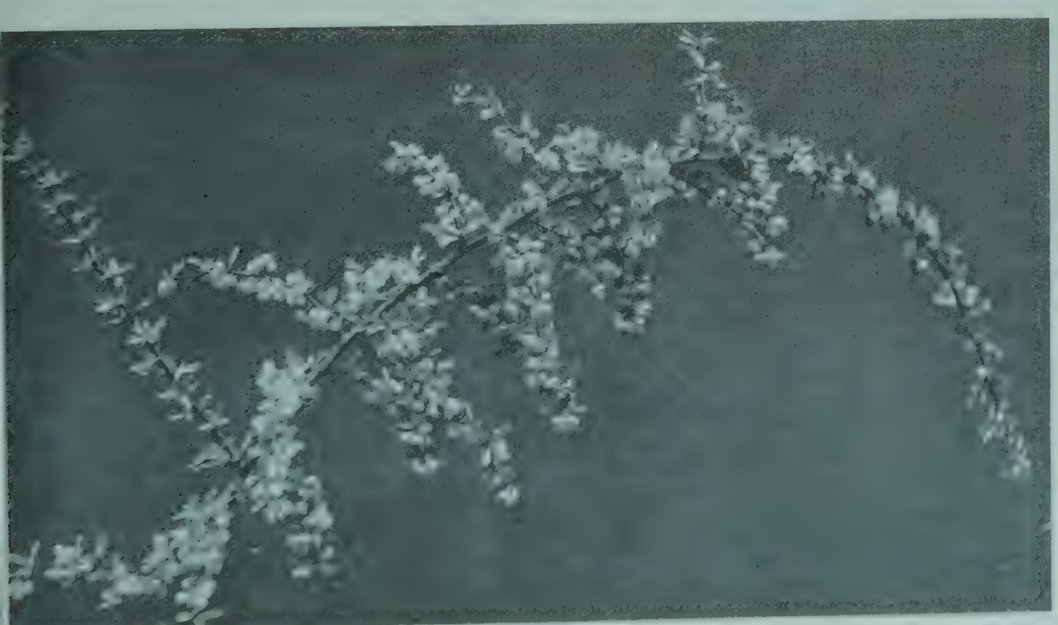
EXPLORATION in China during the present century has added several very attractive species of Pyracanth to cultivation But although distinct enough, I do not think any of them are equal in beauty to the old P. coccinea—a native of Southern Europe and Asia Minor—cultivated in English gardens since early in the seventeenth century. The species now figured was first discovered by Delavay, the French missionary, in the province of Yunnan, China, about 1889, but it was not introduced to cultivation until 1911, when Mr. George Forrest sent it home.

THE TYPICAL PYRACANTHA ROGERSIANA.
From a spray left here for identification.

Its most distinctive feature among Pyracanths is the smallness of its leaves, which give it a daintier appearance than any other species; they are ½in. to 1½ins. long, and ⅛in. to ½in. wide, glossy green and shallowly toothed. The flowers are very much like those of the other Pyracanths, being produced in June in small clusters, each flower about ½in. wide and white. The fruits are globose or slightly orange shaped, ¼in. wide, and vary in colour from golden yellow to reddish orange. They are in full beauty in September and October and, like those of P. coccinea, are often taken by birds if not protected by netting. The plant is named in honour of Mr. Coltman Rogers of Stanage Park, Herefordshire, who first brought it into public notice. Several varieties of this shrub were exhibited from the Royal Horticultural Society Gardens, Wisley, at the Berberis Show, which proved the plant to vary not a little, both in colour and habit. There were weeping and congested forms, but perhaps the golden yellow form called flava was the most attractive.

Another fine new species is P. Gibbsii, named after the Hon. Vicary Gibbs, who grows it extremely well at Aldenham. This is very distinct from Mr. Rogers' shrub in its larger leaves and flowers, vigorous growth, and in the fruits remaining on the branches much longer, even up to March A drawing of a fruit-bearing branch by Mr. E. A Bowles appeared in THE GARDEN for November 30th, 1918. Both it and P. Rogersiana are perfectly hardy and valuable additions to evergreen shrubs

W. J. B



A BEAUTIFUL HYBRID OF BERBERIS POLYANTHA WHICH HAS DELIGHTFUL AUTUMN TINTS —BERBERIS × AUTUMN CHEER.

NOTES FROM THE RIVIERA

NO rain has fallen on this coast during the month of October, when the autumn rains are expected, so that it is suffering severely from the prolonged heat and drought. There can, I fear, be no good autumn growths this year and winter Roses will be both poor and scarce. The great heat of the summer has been very beneficial to the Palms and tender climbers that were so cut by that severe and sudden wind-frost last December, and their fine heads of foliage are luxuriant and green again, but nothing else looks happy unless it be the Pepper Tree (Schinus molle), always so ornamental with its red berries and bright green leaves. It is interesting to see that Osteomeles anthyllidifolia, the shrub that Reginald Farrer apostrophised as the signal of barren land in China, is now in unusual vigour, and I might say beauty, with its green pinnate leaves and buff yellow berries. No one could imagine who saw it at this season that it looks so like the English Hawthorn when covered with flower in spring. The autumn-flowering forms of Bougainvillea and the white or orange flowered Lantanas are also flowering bravely, though so droughted. In England in old days the pretty little Cypripedium Fairrieanum was found a difficult plant to keep in health in an ordinary hot-house or even a cool house, but when one sees it here full of vigour and flower after a fiercely hot summer and a cruel frost last winter it is evident that some plants are like people, and cannot stand a "dull uniformity" of temperature and moisture! Cypripedium insigne in all its forms, however, prefers the even tenor of a sheltered existence in shade and moisture. The beauty of the Pomegranate Tree this autumn is quite a revelation. In a general way the large and handsome fruits do not colour very highly. This year the conditions have suited them to perfection, when their roots are in reach of a little moisture, and the gorgeous colouring and splendid size of the pendent fruits is wonderful among the green and glossy foliage that glistens in the sun's rays. Could such brilliant colouring be depended upon as an annual thing the Pomegranate would stand at the head of all ornamental fruit trees in autumn, just as its scarlet blossoms are the cynosure of all eyes in June. It is a thing to remember and be thankful for!

The Japanese Kaki or Persimmon, another wonderfully decorative and beautiful fruit tree, is also beginning to colour its tomato-red fruits, but the wonderful moment of beauty when the leaves turn brown-red before falling is so short lived that one has almost to sit up all night to be sure of enjoying it in the morning, while the beauty of the Pomegranate endures for some weeks.

Sternbergia sicula is another of these short-lived pleasures. In the heat of this autumn the whole period of flower was compressed into six days! If it flowers sparingly in the north, at least its blossoms remain in beauty longer.

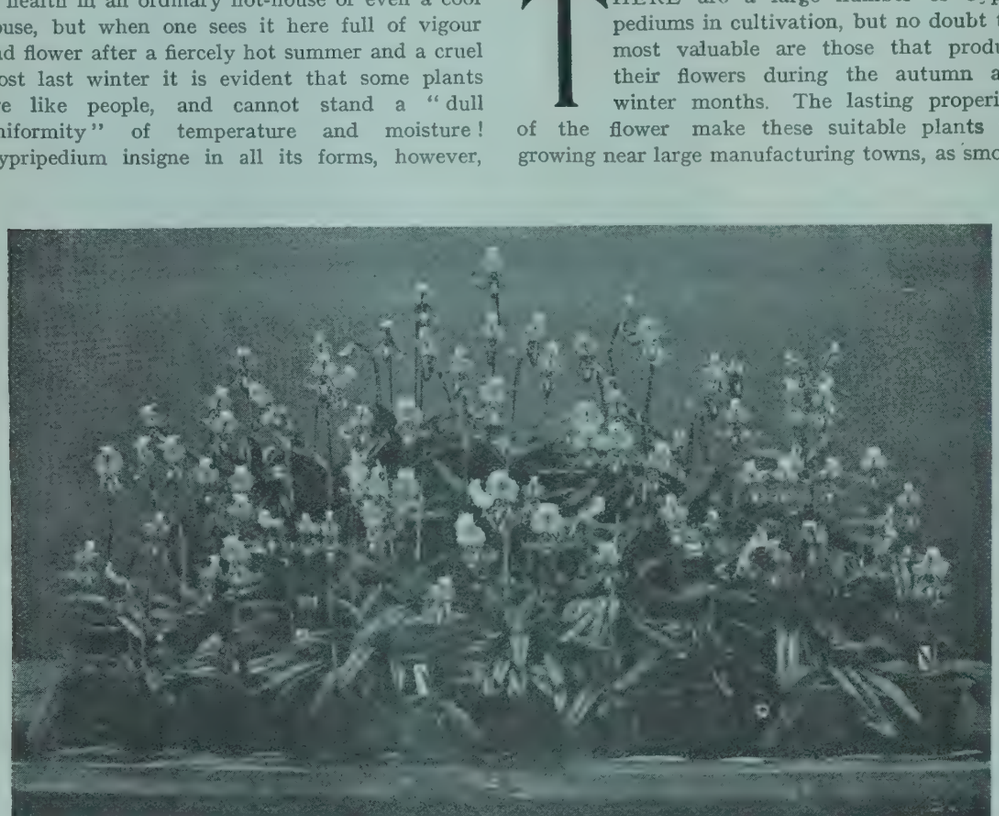
Duranta Plumieri is very prettily in flower just now. Cut down by last winter's frost, it has sprouted up vigorously, and its bright green foliage and shoots are crowned with long racemes of plumbago-blue flowers which will be succeeded by bright yellow berries—it is a shrub that should be in every garden.

E. H. W.

THE SLIPPER ORCHIDS

(CYPRIPEDIUMS.)

THERE are a large number of Cypripediums in cultivation, but no doubt the most valuable are those that produce their flowers during the autumn and winter months. The lasting properites of the flower make these suitable plants for growing near large manufacturing towns, as smoky fogs do them little damage. Some of the most popular and easily grown Cypripediums are the insignes and their hybrids. Among the former will be found the beautiful primrose yellow Sanderæ, the upper part of the dorsal sepal being pure white. This is undoubtedly the best of the yellow forms, and it is often represented in collections by dozens of plants. First and foremost among the spotted kinds is the bold Harefield Hall, the dorsal sepal being heavily spotted with chocolate, and broadly margined with pure white. Another good variety is Chantinii, which is distinguished by the mauve-purple spots on the white area of the dorsal sepal. The hybrids embrace C. Leeanum, C. Thalia, C. Actæus, C. Niobe and a host of other desirable plants. A few species that might also be included are C. Spicerianum, C. Charlesworthii, C. villosum and the pretty little C. Fairrieanum. It is a good plan, however, to visit the various exhibitions and nurseries when the plants are in bloom, then a selection could be made and the plants bought while they are still in flower.



CYPRIPEDIUM FAIRRIEANUM SEEMS NOT TO LIKE TOO PROSAIC AN EXISTENCE.

Cultural Remarks.—Where a quantity of Cypripediums are grown a separate house or division ought to be set apart for them, but if only a few are cultivated a warm greenhouse should be chosen. The beginner must bear in mind that the orthodox Orchid house is not a necessity. I have seen C. insigne successfully grown under the most diverse conditions, especially in a cool vinery, and among both stove and greenhouse plants. To secure healthy plants and good quality flowers the minimum temperature ought never to fall below 45°, a few degrees higher would no doubt be beneficial. During the greater part of the year these temperatures would be obtained without driving the fire, advantage being taken of sun heat. At this season the plants will be pushing up their flower-spikes, and in some instances a neat, thin stake will be needed; it should be in position before the flowers open. While the plants are in bloom the roots ought to be kept just moist and the atmosphere on the dry side.

A few weeks after the flowering period any repotting is carried out, but this operation is not necessary every year. Large examples that have become pot-bound and have their centres filled with old growths must be thoroughly overhauled. They are turned out of their pots, pulled to pieces, and the number of flowered growths reduced to two behind each lead or growing point. These new growths can either be potted off singly, or several used together, thereby making a nice compact specimen Unless it is desired to increase the number of plants the latter method should be adopted. Small plants that have filled their pots with roots can be moved on with little or no disturbance. Ordinary flower pots are the best receptacles and they are filled one-fourth of their depth with drainage material. The soil consists of fibrous loam one-half, good quality peat one-fourth, and chopped Sphagnum Moss one-fourth, to which is added a sprinkling of crushed crocks. The loam and peat is broken up into pieces about the size of a walnut, and then the fine particles are sifted out, the Sphagnum is picked over and cut up fairly fine. Some growers dispense with the Sphagnum Moss, but it tends to keep the roots cool and moist during hot, dry weather. Make the compost firm between and around the roots, and bring it up level with the rim of the pot. For a few weeks after being disturbed very little direct watering is needed, but enough must be given to encourage root action, and prevent the growth from shrivelling. Once they become established a liberal supply of water must be afforded, especially to those plants that have not been re-potted, and at no time ought the roots to get really dry.

Cypripediums are more or less shade-loving plants, therefore a little protection from the direct rays of the sun will be needed the greater part of the year, and if possible, canvas blinds should be used in preference to permanent shading. Ventilation is important, and air must be admitted whenever the elements are favourable, the chief thing to avoid is cold currents of air passing over the plants. A moist atmosphere is maintained by sprinkling the paths and stages with water once or twice each day in accordance with the season and weather, and on hot days a light spray overhead is recommended; it promotes healthy growth and tends to keep down insect pests. The chief pest, however, is thrip, a minute insect

hich feeds on the young leaves. When thrip is oticed the house should be vaporised at once or e plants sprayed with a solution of XL-All Insecticide. If Cypripediums are given the same care and attention as ordinary greenhouse plants, success will be assured. T. W. B.

CORRESPONDENCE

HE REFORM OF THE POST OFFICE SERVICE.

THE present postal charges bear very heavily on every branch of the horticultural trade. he burdens, indeed, are so heavy that they are arcely bearable. An immediate reduction in all ostal charges should be made, and I venture to uggest to the horticultural trade that, individu-lly, they should do their utmost to bring his matter to the notice of the Government. hey should write to their local papers and heir Members of Parliament, and do everything ossible to emphasise the terrible handicap nder which our trade has to carry on its perations. Not only is our trade affected, but he trade of the whole community. A vast amount f shopping is now done through the post, and if he postal charges were reduced I venture to say hat double, if not treble, the quantity of business would go through this channel than is doing so at present. The benefit to be derived from a cheap nd efficient postal service is enormous, and it would do more to solve the unemployment problem han any other scheme which has been propounded. It is monstrous to think that a parcel weighing just over 1lb. costs 9d. to send by post even to the next village, and that a post card costs 1½d. to be delivered a few miles away. Properly worked, the Post Office, with its monopoly and with the enormous turnover that would result if the rates were reduced should be a gold mine in this country. Now, through the attitude the authorities have taken up in increasing the postal charges to a prohibitive rate, it simply means that everyone is cutting down their correspondence through the post to the minimum. I feel sure that if everyone would put his shoulder to the wheel and instead of grumbling at the state of affairs at present existing in the Post Office do something such as I suggest, either by writing to the papers or their Members of Parliament, we should very soon see a drastic alteration. I am convinced that if the postal authorities had the courage to revert to the pre-war charges they would be amply justified by the result, for they would secure an enormous increase of business, probably treble their turnover, and would show a larger net profit than they do now. Not only that, but all other businesses in the country would benefit enormously, and I feel convinced that those to whom I am now appealing to do their bit would feel they had not made their effort in vain, but had helped to confer an enormous boon on the whole community. I hope you will pardon my troubling you at this length, but the matter is, in my opinion, of vital and national importance.—SAMUEL RYDER.

[Practically everyone will endorse our correspondent s remarks as to the iniquity of the present postal rates which are *compelling* English firms to post their catalogues and circular letters abroad in order to be able to afford to post them at all. Recent innovations in the Post Office have been entirely retrograde, so that in postal matters we appear to be fast returning to the service (or lack of it) which obtained in the "Dark Ages" before the introduction of the penny post.—ED.]

AN UNUSUAL OCCURRENCE.

I AM sending you herewith a photograph of Mina lobata fruiting in a Hampshire garden. This is surely a very unusual occurrence outdoors in this country. The plant was one mass of blossoms.—J M.

[Mina lobata—Ipomœa versicolor, to give its proper name—is a perennial species usually, in this country, treated as an annual. Always more successful in hot summers, it has this year flourished exceedingly. It is unusual for this plant to set seed outdoors.—ED.]

FLOWERS AND FRUIT OF IPOMŒA VERSICOLOR.

EARLY FLOWERING OF IRIS UNGUICULARIS.

I PICKED the first flowers of the season here on October 7 and have had 170 blooms out up to to-day (October 30). In 1919 the first flower opened on October 4, and in 1920 on October 2, but in neither of these years were there nearly so many flowers opening in October. The white variety has just commenced to flower, but as my plant is much smaller than the mauve clumps it may begin to flower equally early when it becomes thoroughly established. We are generally able to pick a few flowers from one form or another every day from October to the end of March. Some forms of Iris unguicularis are evidently much more lavish in flower production than others, while some forms are notoriously shy.—NORMAN G. HADDEN, *Porlock*.

I SEE with interest your correspondents' notes *re* Iris stylosa and am sure that before this you are submerged with letters recording the fact that it is now in bloom throughout the country. As a matter of fact I myself was about to rush into print on the matter when your issue of October 29 turned up. Stylosa in the pale blue form has been in bloom here for the past fortnight, but a larger and stronger clump of the deeper blue has not even a bud. We have had the same wonderful year as elsewhere, though—fortunately for our gardens—we do not suffer from the extreme heat that you get. Things have been flowering out of season to a great extent. A Delphinium in my herbaceous border facing south-east showed colour in its bud on Feburary 27 and was in flower three weeks later. I have just cut down the last straggling blooms.—F. G. PRIDEAUX, *Inchicore, Dublin*.

I NOTICED the first blooms of Iris stylosa here on September 30th on a clump of the old small pale blue variety against a warm wall. It has been flowering more freely than I ever remember and quite six weeks before the usual time.—ISABEL A. DENT, *Ribston, Yorkshire*.

I SEE in THE GARDEN for October 29th, several of your correspondents mention that their Iris stylosa is already in flower. I have the same experience here; it began to bloom about the beginning of October, and not only are the flowers very strong, but there is an unusual quantity of bloom. As these lovely little Irises are natives of Algeria, I put their early appearance down to the fact that the unusually dry and hot summer we have had is very like their native climate, where I believe they do flower early. I have also a Daphne, the true Indian variety, which is also just coming into flower, though as a rule it does not begin till February. I put this down, too, to this year's unusual climatic conditions.—EDITH MOUNT-EDGCUMBE, *St. Dominick, Cornwall*.

I NOTE in October 29 issue of THE GARDEN two correspondents express a wish to know if others have had a similar experience of these Irises blooming now. Here in Surrey we have had a great many blooms which commenced early in October. They are deeper in colour and larger than usual. I suppose these, like the Amaryllis Belladonnas (of which against a south wall we have 287 fine spikes) are quite abnormal in our climate, but this summer has given them just the baking they get in their native homes. Here, too, we have Schizostylis coccinea blooming profusely quite six weeks before it usually does and vividly brilliant in hue.—J. W. T., *Cobham*.

TWO LITTLE KNOWN PERENNIAL PEAS.

A PROPOS my note on Lathyrus tuberosus in your issue of October 15, I find quite accidentally that it was got by Mr. John Rasor among Gorse and Bramble near Bury St. Edmunds in Suffolk in 1907 and recorded in the Journal of Botany, 1909. Subsequently Mr. Britten, the Editor, pointed out that there is a Suffolk specimen in Herb. Brit. Mus. which was probably gathered

by Buddle, who was living in Suffolk as long ago as 1698. The plant is not mentioned in Hind's "Flora of Suffolk."—H. S. T.

ASTER KING OF THE BELGIANS AGAIN.

I FEEL quite bucked up that I—quite a super-amateurish amateur and not an "Anne Amateur"—should have agreed so nearly with the Rev. J. Jacob in a selection of Michaelmas Daisies. "Mr. Shoosmith's visitor" happens to have been an exceedingly youthful grandmother of some twenty years' standing with a fairly reasonable chance of being a great-grandmother at some not distant future, and perhaps the pince-nez had been left in the house, I cannot say; but she goes to all the shows and knows what's what. She was not, at any rate, one of "The Young Visiters"! Even at the risk of being regarded as a heretic to THE GARDEN'S accepted doctrine of "infallibility" (of the arch-florist) my very conscience impels me to protest against this last most unworthy translation of King of the Belgians. True, the disc does *try* to be oval, and if it could only succeed one would not mind; in fact, I agree (and will Mr. Beckett please note) that a perfectly oval disc would fill—in the Michaelmas Daisy family—what an ancient grocer of my acquaintance used to describe as a "long-felt want" when anything one *wanted* happened to be out of stock. Unfortunately, however, for King of the Belgians, there is a nasty little nick on one side of the otherwise oval disc which Mr. Jacob must have overlooked (perhaps Mr. Bowles would lend his glasses that he mentions in his article, page 33, Vol. LXXXII). Thus the disc is no more oval than it is round. One might hazard a guess as to what Euclid's definition of an "oval" would have been, but I feel almost certain that he and Mr. Jacob would have disagreed on this point. Furthermore, the nasty little nick catches up several of the florets, which stick up much like the hair does on the top of the heads of some men, apparently refusing to be brushed down either way (the result, I have always imagined, of having patronised a "second-hand" hairdresser in their youth). This is what is the matter with King of the Belgians and the reason why it was condemned. On the other hand, it is just possible that the "porcine fertiliser" mentioned as having been used in 1920 may have made all the difference, but alas! "the Bay trees in our country are all withered and the moon" looks through the roofs of *our* pigstyes.—EDWARD SHOOSMITH.

THE HARDY VERBENA VENOSA.

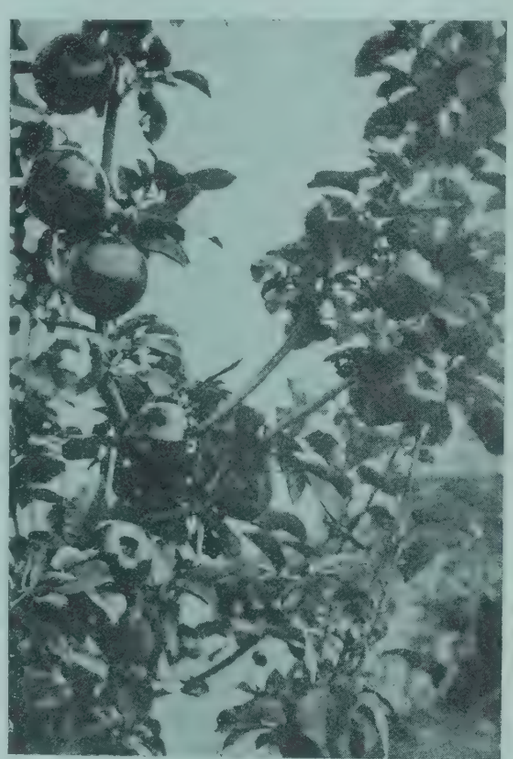
THOUGH comparatively seldom seen in gardens, this fine autumn bloomer is well worthy the attention of anyone who can give it a free (even poor), gritty soil with full exposure. In some districts it may need taking in for the winter and the thick, fleshy roots lend themselves to this treatment and are easily started in spring. But conditions would have to be very bleak and unkindly to destroy V. venosa in an average winter, provided the soil is suitable. Here the plant thrives year after year with no attention whatsoever, and a good many self-sown seedlings appear about the rock garden. Like many other subjects, V. venosa dislikes isolation, and a mat of Thyme, Veronica pectinata or other creeper, through which it can thrust its 9in. stems, makes a good companion plant. The closely packed heads of violet-purple which crown the branching flower-stems from September to winter are very handsome, and they seem indifferent to wind or wet. The fact that this Argentine Verbena is practically mildew-proof is also a point of importance in its favour.—N. WALES.

THE PINK-FLOWERED SCHIZOSTYLIS.

MRS. HEGARTY is no doubt a most estimable lady who married a man with an uncommon name which he got from his father, as dear old Dan'l Peggoty got his. But the name is not a nice one for a flower. It was to the credit of the late Mr. William Bell that, although he introduced scores of new plants requiring names he would not have them named after him. There are plant sponsors who are less considerate, more's the pity. I hope Mrs. Hegarty of Clonbur, Co. Galway, will not be offended if I suggest that the charming pink variety of the crimson-flowered Schizostylis should bear the very appropriate name of S. rosea, the pink Schizostylis. She is fully entitled to all the credit for bringing the plant into notice, and I hope some day to have the pleasure of owning it and flowering it, but I do not want to call it Mrs. Hegarty's Schizostylis. Rather let us call it S. Hegartiana, but better still would be the name that correctly describes the colour of the flowers.—W. K.

A VALUABLE APPLE.

I ENCLOSE a photograph of a young Apple tree which I had taken just before the fruit was gathered. The variety is Red Victoria. The photograph shows how large the fruit has grown.



APPLE RED VICTORIA.

Not only is the size noteworthy, but its beautiful colouring and free cropping make it a most desirable sort. I had forty-five Apples on this quite young tree, and thought perhaps other readers of THE GARDEN would be interested. I have seen Red Victoria elsewhere, but none with such fine fruit.—JOHN PYPER, *Lisburn, Co. Down.*

[Many readers will know this excellent early Apple, which well deserves our correspondent's encomiums, but alas! in many parts it is a great favourite with the birds!—ED.]

LITHOSPERMUMS AND LIME.

THE statement on page 548 of THE GARDEN to the effect that the Lithospermums dislike a calcareous soil expresses a very common belief, but one which is none the less an error. The fact is the genus is entirely a lime loving one, and though some of the species will do without it, lime or chalk is quite essential to the success of many. Readers who have failed with these beautiful subjects should try the effect of a good top-dressing of old broken-up mortar. I can heartily endorse the opinion expressed in the paragraph referred to regarding L. rosemarinifolium which is, indeed, the "gem of the family." We find this species as hardy as most others in free stony soil, preferably on a ledge. It will often bloom twice a year, viz., in January or February and again at the "back end." A plant in this garden is now in full flower, and the incomparable blue of its large blossoms—a blue that seems so appropriately associated with its Capri home—is never so wonderful as in the subdued sunlight of these later days.—CAMBRIA, *North Wales.*

[We certainly think our correspondent is in error in thinking that Lithospermum prostratum likes lime. That it will tolerate a little, we know, but it may be seen growing and flourishing in soils so destitute of calcareous matter that Rhododendrons flourish in them without special preparation. Lithospermum graminifolium, L. petræum (Moltkia petræa), their hybrid (L. intermedium), and many others are admittedly lime lovers.—ED.]

IS THE TOBACCO PLANT A PERENNIAL?

I WAS much interested in the letter *re* the Tobacco plant. When I was a boy, my mother, who was a fairly good amateur gardener, used regularly year by year to lift and pot up her Tobacco plants, bring them indoors and grow them on again. Very often by Christmas they would again be in full flower. After flowering they were allowed to dry off and in the May following were planted out again. Sometimes one here and there would die, but generally the plants would, after a few years, increase in size to such an extent that they were left *in situ* for the winter, covered over with leaf mould. They would appear again in spring. The nettle-like roots of these old plants leave no doubt that they are old plants, not seedlings. I am trying some myself this year. As an old reader of THE GARDEN, I love the correspondence columns and as an amateur learn much from them. One letter a few weeks ago particularly interested me; it was over the signature of "W. Bunbury." If I make no mistake, I received my first lesson in gardening from him. Although I have not been fortunate enough to garden for a living, should this letter meet his eye, he, I am sure, will be pleased to know that his instruction was not in vain. At a show for fruit, vegetables and flowers held here in September of this year I took nineteen prizes from nineteen entries.—A. BUTCHER, *Bermondsey.*

THE BELLADONNA LILY.

THE notes which have appeared in recent issues of THE GARDEN on the culture of this beautiful Lily have been very interesting. I have only quite recently taken up THE GARDEN so can only refer to the latter part of the correspondence. I have a vivid recollection of the row of Belladonnas at Lydney Park referred to on page 519 by Mr. F. W. Harris. From close observation I have come to the conclusion that this is a heat-loving plant. If Mr. Harris will recollect, he being, if I mistake not, a fellow worker at Lydney Park, that they always grew stronger and flowered better in front of the heated fernery and stove than they did at the cool greenhouse end of the row. At Coombe House where I was employed for six years there is a row of Belladonnas in a border in front of a small stove, which have flowered exceedingly well this past summer, though last year they were almost a failure. This, I think, goes to prove that weather conditions each season have a good deal to do with the success or otherwise of this beautiful flower.

he summer of 1920 was, it will be remembered, et and cold.—R. MORSE.

A GOOD BEDDING DAHLIA.

WITH the exception of a "last ditcher" in the person of Paul Crampel, the day f the bedding Geranium is over and the bedding ahlia has pretty well taken its place. It can e had in all shades—always excepting "true lue"—but for those who want a blaze of colour othing can well beat Coltness Gem, a brilliant carlet variety of dwarf habit and very floriferous. A large bed of this in the Waverley Market Roof Garden, Edinburgh, has, during the past season, been "the observed of all observers." It is a grand park Dahlia.—C. C.

[The Editor wishes to make clear that the idea hat the day of the bedding Zonal is over is not his sentiments," nor does he see how the Dahlia, f all flowers, can well replace it. Leaving all question of habit aside, its season of flowering commences much too late for that. Its scent, too, is not prepossessing.—ED.]

ADVANTAGES OF EARLY PLANTING OF FRUIT TREES.

THE amateur is not, in general, sufficiently alive to the advantage of planting fruit trees in late autumn, rather than in winter or spring. As early in November as can be is a good time. One of the greatest advantages of early planting is that the soil is then warmer, its summer heat not having had time to dissipate, and consequently the pruned roots of early planted trees are easily encouraged to put forth quantities of new roots which help the trees to start freely and break strongly into growth in spring. If the planting is long deferred, the soil (especially where heavy) will become soddened and cold. Planting is not then so pleasant an undertaking, neither can it be so effectively carried out. Wet, plastic soil cannot be packed around the roots so easily under such conditions as can soil which is comparatively dry. Another advantage one obtains by early planting is that one has the chance of the first pick of the trees at the nursery and so obtains the best.—O. T.

A CHARMING AUTUMN CROCUS.

I WONDER whether many of your readers grow Crocus zonatus. Next to C. speciosus it is the most easily grown of the autumn Crocuses. We have a number in the grass and the self-sown seedlings vary in colour. Some are nearly white, and one a much deeper colour than the type. Some plants usually shy bloomers have been delightfully free this year.—Plumbago Larpentæ, nearly as brilliant as it was in the Oxford Botanic Gardens the other day. The blue-fruited Vine humilifolia planted many years ago has at last some Grapes which only need continued sunshine to bring out their full blue colour. Clematis Rehderiana (nutans)—its small yellow, green and white bells in great abundance—has been most attractive. The yellow Clematis tangutica (?), a clear yellow, has been one of our chief treasures.—F. A. STURGE, *Wrexham.*

SOME HEAT-LOVING PLANTS.

ALL the Salvias appear to have revelled in the continual sunshine this summer, and Salvia fulgens in particular has been a blaze of colour for months. It is practically hardy in the West of England forming a loose-growing bush 5ft. or 6ft. high in a couple of years. Wind is its worst enemy, as the branches easily snap. Cuttings strike readily and form shapely plants so quickly that one is surprised at not seeing this fine species more frequently. Salvia rutilans (the Pineapple Salvia) is equally hardy here and is now very handsome with its bright red flowers, but its season of bloom is much later and, consequently, shorter than that of S. fulgens or the glorious blue S. patens. The smaller rosy scarlet S. Grahami has been a mass of colour since June. The only disappointing Salvia this year has been the creamy-yellow S. digitaloides, a recent introduction from China; its flowers are too small and are borne on too short stalks to be handsome. Nor does it enjoy great heat, for it flagged badly and was only saved by copious waterings. The lovely Pentstemon heterophyllus with its turquoise blue flowers thoroughly enjoyed the baking it received, and last year's cuttings of the rambling P. cordifolius made great growth and flowered nobly. Ceratostigma Willmottiana stood the drought excellently, and plants only a year old have borne quantities of incomparable blue flowers. It is one of the very finest of modern introductions.—N. G. HADDEN, *Porlock.*

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Spring-flowering Plants, such as Wallflowers, Arabis, Myosotis, etc., should be in position now as soon as can be arranged. Where the beds were well prepared for the summer occupants, it will only be necessary to add a little bone meal and wood ash as digging proceeds. No fixed plan can be laid down as to how each lot of bulbs or plants should be used; it is so much a matter of meeting the requirements of the place. Personally, I think far too many colours often are used. The planting of Hyacinths and Tulips, too, should now be persevered with, remembering on light soils to plant a couple of inches deeper than on heavy land.

Anemone coronaria, popularly known as the Poppy Anemone, is one of our oldest and most brilliant of spring flowers. In all ordinary well-drained soils planting can be done now, but on cold soils it is advisable to defer the work until spring, and thus minimise possible losses. Two good types are the Caen and the St. Brigid, possessing as they do such a charming range of colours in single and double flowers.

The Kitchen Garden.

Winter Salads.—Where it is necessary to maintain a supply of as many of these as possible, an occasional sowing of Mustard and Cress will be required, sowing the latter a little in advance as it takes longer to mature than Mustard. Continue to blanch Endive as required. Any further plantings to be made in frames from outside should be done. Where there are developed Lettuce in open situations, some arrangements should be made to give protection in the event of sharp frosts, unless the whole lot can be lifted and transferred to cold frames. Chicory may be taken up as required, and if placed in a cellar or mushroo m house with moderate temperature, suitable leaves will soon be available for the salad bowl.

Winter Greens, more particularly Brussels Sprouts, should be occasionally gone over and all spent and decaying leaves removed. This will the more readily admit light and air, thus preventing damping and rotting. See that all weeds are removed and if the ground is in a suitable condition give it a good hoeing.

Broad Beans.—Where it is the practice to make a sowing this month, the work may now be carried out. This Bean delights in a good strong soil in an open position, but for autumn sowing it is essential that the site selected be thoroughly well drained. The Longpod section is the best for this sowing. The seeds should be sown 6ins. to 8ins. apart in double drills drawn about a foot apart, from 2ins. to 4ins deep according to soil, and the rows should be from 2ft. to 3ft. apart.

Plants Under Glass.

Pot Roses are useful for yielding early blooms and a few may be grown with other plants, so long as they are not crowded up too much or deprived of plenty of light and air. It is unnecessary to repot old plants every season, a top-dressing of good loam, to which has been added some wood ash and bone meal, being sufficient. Make sure the drainage is in good working order, and until such time as necessary to take the plants indoors, keep them plunged in leaves or old ashes to prevent root injury by frost.

Richardias.—The late batch of these should now be removed inside, for although protected, it is not advisable to risk a severe check just when roots are on the move. From the earlier plants some of the strongest should be selected and placed in warmer quarters, if blooms are required for Christmas. Should green fly make its appearance, fumigate at once, and when the pots are well filled with roots give a fairly liberal supply of diluted farmyard manure and also soot water.

Violets in Frames.—With the exceptional warm, dry spell after these were planted, frequent syringings and waterings were necessary to enable the plants to make a good recovery and to keep red spider in check. Keep the runners pinched off and when necessary to have the lights on avoid at all times a close atmosphere, for, with the exception of fog, nothing is so detrimental to the health of these plants.

Fruit Under Glass.

Pot Figs required for early work and still standing outside should be brought in under cover. Should top dressing not have been carried out, it must be done now, using good fibrous loam, to which may be added a little old manure and wood ash and rubble. Failing a house which can be given up to them, the most suitable place to accommodate them is a peach house or vinery, which will be used as an early one.

H. TURNER
(Gardener to the Duke of Northumberland),
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Jerusalem Artichokes.—Cut over the stems of these now and lift a quantity of tubers for convenience in using should wintry weather prevail. Store in sand so that the tubers may be fresh and succulent when required.

Rhubarb for Forcing.—Roots of a suitable forcing variety should now be lifted and left for a period on the surface before transferring to the mushroom house or forcing pit. Daw s Champion, Champagne, and Early Scarlet are excellent sorts for forcing purposes.

General Work.—Continue to clear off spent crops and tidy up borders in preparation for digging or trenching. Soft weeds, cabbage leaves or other quick-rotting material may be buried in the trench. Advantage may be taken of frosty mornings to wheel manure on to the vacant ground, while heavy ground may be considerably lightened by the addition of leaf-mould or spent hot-bed material in which leaves predominate.

The Hardy Fruit Garden.

Pruning.—A start may now be made on the Currant border, thinning out all old and useless wood and encouraging young, fresh growth. As Lichen is troublesome in many of our Northern gardens, a light spray with Bentley s Alkali during the winter will prove effective in cleaning the bushes.

Propagating Currants and Gooseberries.—The present is a suitable time to insert cuttings of these popular fruits Procure strong, short-jointed cuttings from the present season's growth about 12ins. long and rub off all but four or five of the top buds on the Gooseberry and Red Currant shoots, as these are grown on a single stem but leave the Black Currant buds as it is desirable that they send out a number of vigorous growths from the base. Insert the cuttings in narrow trenches about 6ins deep, placing sharp sand in the bottom; keep the shoots about 6ins. apart in the rows, fill up and tread firmly. The rows should be at least 1ft. apart.

Morello Cherries.—Cut out old and superfluous wood and tie in the fresh fruiting growths at even distances Trees that may have been neglected for a period should be taken down, cleaned and arranged anew

Sweet Cherries.—The pruning of Sweet Cherries differs entirely from that practised in the case of Morellos, as the Sweet Cherry fruits best on the spur system. Where summer pruning has been

carried out spurs and buds should be well ripened and will require the minimum of attention now. Refrain from cutting out strong-growing branches, as this frequently causes "gumming."

Plants Under Glass.

Lilium Harrisi.—Bulbs of these handsome Lilies are now to hand so should be potted up and placed in a cool frame until root-action takes place. They may afterwards be subjected to gentle forcing, and by working them in batches the flowering period may be extended for several months.

Hyacinths and Tulips.—Where one is desirous to have these in flower by Christmas, well-rooted lots in boxes and pots which were taken from the plunge some time ago may now be advanced to a more genial temperature. Early Tulips are generally very short of stem, but this may be helped by partly covering them for a few days after the flower buds are well formed with a box about 12ins. deep; this draws the flower stems so that their value as cut-flowers is considerably enhanced.

Lily of the Valley.—Retarded crowns should be boxed up immediately, if required in flower for Christmas. If accorded proper treatment, charming spikes may be had for cutting by that time. The most convenient method is to grow in boxes, keeping the crowns well above the surface and pressing the soil firmly about the roots. Water thoroughly and place in a temperature of from 55° to 60°. Shade from strong light for eight to ten days, and by that time the crowns should be about 6ins. in height, when more exposure to the light may be allowed, but partial shade should be given from strong sunshine until the flowers are ready to cut.

Chrysanthemums are generally considered to be at their best at this time, although the later lots may be more highly prized. These should be kept in cool quarters so that anything tending towards softness of growth may be guarded against. Well-budded plants may still be assisted with suitable stimulants.

The Flower Garden.

Border Chrysanthemums.—As these cannot be depended upon to stand the winter in the open the various sorts should now be lifted and boxed in leaf-mould and sand with a view to propagating in spring.

Border Carnations.—Layers planted in the open during September should be looked over and made firm. If slugs are troublesome dust with soot occasionally and surface-dress the beds with wood-ash.

Mixed Borders.—Sharp frost has now put most of the plants over for another season, so no time should be lost in clearing away spent annuals and cutting over the hardy plants. The stems are easily got rid of by burning. The ash from the bonfire is a valuable fertiliser. Stakes should be stood in a shed to dry previous to sizing and storing during wet weather.

Roses.—The most popular month for planting Roses is November, although they can be planted with good results any time between now and the middle of March, provided the work is done during suitable weather. If new beds are to be filled the ground should be deeply dug and a generous supply of well-decayed manure from the byre worked into it. When planting do not let the manure come in direct contact with the roots. Hybrid Perpetuals should be kept about 2ft. apart, but Hybrid Teas are more effective and do quite well about 18ins. apart each way. Plant firmly and add a mulch of strawy litter, as this is a decided protection in districts where hard and lengthy frosts are experienced. JAMES MCGRAN

(Gardener to Sir Henry H. Houldsworth, Bart).

Coodham, Kilmarnock.

PLANTS FOR A PAVED GARDEN IN WALES

In answer to a correspondent, who states that the terrace faces south, that the beds are formed of good soil, that he wants flowers between June and September, and that the climate is very mild.

PLANTS of a mounding or spreading habit in shades of mauve, purple, creamy white, soft yellow, rose pink and crimson associate best with paving. The colours should be rigidly adhered to, but a few plants of contrasting habit will improve the effect. Suitable dwarf plants are Nepta Mussini—this is invaluable for such a garden; Violas in the colours stated, Stachys lanata, Anthemis cupaniana, Dwarf Campanula (many varieties) and Pinks. Suitable semi-dwarf kinds include the beautiful Dianthus Herbertii omitting the salmon and orange shades, Pentstemons, Dracocephalums, Salvias Tenori and virgata nemorosa, and crimson Sweet Williams. Still taller, some of the Southernwoods (Artemesia) are suitable, as are Lavender, Rose Lupins, Delphinium Belladonna and similar kinds; Malva moschata, Campanulas persicifolia and lactiflora, Sidalceas, Lobelia fulgens (crimson and rose shades), Lavatera thuringiaca (L. Olbia would be too robust) and Monarda didyma, with such Lilies as testaceum, Henryii and candidum. This list is by no means complete, but it will serve as a guide. If our correspondent will excuse unasked for advice, we think the intricate end beds which give no thoroughfare are a mistake. They might well be broken by narrow (3ft.) paths. Lilium candidum and Delphiniums in shades of indigo, violet purple and mauve would be admirable in the border under the pergola, which our correspondent will presumably plant with Roses, Clematises (among the Roses) and Vines. Against the wall Solanum jasminoides, Carpentarias, Abutilon vitifolium, various Ceanothus and some of the choicer Noisette Roses would succeed. Other choice plants for a sheltered seaside garden are often to be found in our columns.

THE FRAMEWORK TO BE FILLED.

GROWING GRAPES IN GREENHOUSES

[In Answer to a Correspondent.]

IT is seldom or never that Grapes grown in a greenhouse where there are other plants are satisfactory. Sometimes the person in charge prefers the other plants, sometimes the vines. In either case the one liked best is the best looked after. Even so, real success in the growth of either is seldom attained.

However this may be, we are bound to look facts in the face. There are, unquestionably, large numbers of greenhouses in the country which have to serve this double purpose more or less all the year round. In such case the person in charge should turn philosopher and compromise by doing the best he can for both. Let them both then be brought to the bar of judgment and let us plead for them both.

The vine is probably the original and assuredly the permanent tenant of the house. Let its plea be heard first. Somewhere about the end of October the vine should be in full fruit, and the Grapes practically ripe. The Black Hamburg Grape, being most luscious and thin skinned, cannot be kept in good condition for dessert (grown in a greenhouse) beyond Christmas. The days are shortening and light diminishing fast. Our plants will therefore suffer injury from the vine canopy. The large vine spurs (meaning the shoots on which the Grapes are growing), may now be shortened by cutting their ends, reducing each by one third its length. This will benefit both plants and Grapes, the latter by the better diffusion of light and the freer circulation of air, preventing the decay and growth of mould on the berries. Air must be freely admitted night and day in favourable weather and a little heat kept in hot-water pipes, especially in damp weather, in order to keep mould at bay. Such an atmosphere would be a delightful one, and no plants growing under the greenhouse roof during this time could possibly be ungrateful enough to grumble.

Now for the season from the end of December to the end of March. Before the old year is out the vines must be pruned. (The Grapes will all have been cut before then.) There is a danger of the vines bleeding to their serious injury if delay beyond this in pruning is permitted. The way to prune is to cut back the shoots which have borne the Grapes to within two buds of their base.

All things that live and grow must have rest. The vine is no exception and this is its season of rest, from December to the end of February. If there were no plants to consider the ventilators should in favourable weather be kept open day and night. That, however, would not suit the plants. Let us therefore compromise by lowering the temperature so far as is consistent with the welfare of the plants. It is time to rest the plants as well. No fire heat should be used unless in the case of severe frost. Let the plants be laid on their sides and covered with mats, or any other warm covering available, in hard weather. This is also the time for the thorough cleansing of the plants and ridding them of all pests by which they may be infested. Do not do this in the greenhouse; take them into the potting shed, in order to make sure that the larvæ of the pest are destroyed likewise and none left behind in the vinery. February and March is a good time to repot or topdress the plants as required. It is also the time for cleaning the vine rods after pruning, for washing the glass, white-washing walls and painting, also for overhauling the roots of the vines.

This is best done by clearing away a portion the top soil of the border deep enough to expose air body of the top roots, then laying over them e best vine compost procurable to a depth of ns. and treading down firmly.

The vines should not be forced into early growth artificial heat. Rather should they break into owth naturally by the aid of sunheat only. his at the end of March will be considerable. hen the vines have started into growth front r should not be admitted until about the middle April. The top ventilators should be used to aintain a safe and equable temperature. This ill prevent the entrance of cold draughts of air id so prevent an attack of the dreaded mildew, common at this time. The gardener's aim should ow be to keep a moderately warm, moist and uable temperature, without undue forcing. ealthy strong growth of vine and plants will llow. A higher moist temperature must, of ourse, be kept up during the summer. To prevent too dense shade of the vines to the injury of the lants, attend diligently to the stopping of the oung lateral shoots, which will keep growing more r less the whole summer. The way to deal with ese young laterals is to pinch their heads off as oon as three leaves have been formed, right hroughout the season. The shade will then not e so dense and vines and plants will agree quite ell. OWEN THOMAS, V.M.H.

FORTHCOMING EVENTS.

November 12.—Burton-on-Trent and Shobnall Chrysanthemum Society's Annual Exhibition.

November 14.—Bath Gardeners' Debating Society's Meeting. United Horticultural Benefit and Provident Society's Committee Meeting. National Chrysanthemum Society's Floral Committee Meeting at the R.H.S. Hall, Vincent Square, Westminster, at 3.15 p.m.

November 15.—Royal Horticultural Society's Fortnightly Meeting. Lecture by Mr. W. F. Bewley on "Diseases of Tomatoes" at 3 p.m.

November 16.—International Potato Conference, to be held at the R.H.S. Hall (three days). The National Potato Society's Exhibition, to be held in conjunction with the above.

National Potato Exhibition, 1921.—This year's exhibition will, in conjunction with the International Potato Conference, be held at the Royal Horticultural Hall, Vincent Square, S.W., on Thursday and Friday, November 17th and 18th. The last day for entry for competitive exhibits is Friday, November 11th. Copies of the prize list may be obtained on application to Mr. W. H. Morter, Parks Department, Council House, Birmingham.

Two Little Books.—That the value of a book is in no way proportional to its size, Mr. Crane's little book* on Violas and Pansies conclusively demonstrates. It should be studied by everyone who is interested in these modest but beautiful flowers. Mr. James Douglas' Carnation book† is equally lucid and well written, with the added advantage that it preaches what is to many people a new doctrine. Mr. Douglas holds that the Border Carnation should be a hardy fragrant border plant which should need practically as little care or attention as the average herbaceous plant. He goes, indeed, so far as to state, and not without warrant, that if suitable varieties be selected it answers these requirements already. It is a long time since we read a better ninepennyworth

* "Violas and Pansies," by Howard H. Crane, F.L.S.
† "Border Carnations and Cloves," by James Douglas. Both published by COUNTRY LIFE, Ltd., 20, Tavistock Street, Covent Garden, W.C. 9d. each net.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

PROPAGATING THE SWEET VERBENA (H. D. R., Wareham).—The lemon-scented Verbena (Lippia citriodora) may be propagated by the means of short shoots with a heel of old wood inserted in sandy, leafy soil and placed under a bell glass. This may be done at any convenient time during the spring or early summer. Another method is to cut up dormant shoots of medium thickness into 3in. or 4in. lengths just before growth recommences, insert them firmly close to the sides of small pots and place in a warm house—under a bell glass or in a propagating frame for choice.

PLANTS FOR CIRCULAR BED (Sparham Camp).—Any planting used in a bed placed centrally in a forecourt should be low. It is not really desirable to have a bed in such a situation at all. As our correspondent does not appear to desire bedding plants, we do not think Polyantha Roses and mauve Violas could be improved upon. We should suggest fifteen plants of Jessie for the centre and fifteen Mme. Norbert Turbat for the outside row. About 150 Viola Maggie Mott would complete the planting. Narcissi or Tulips could, if desired, be used in addition for spring effect. Such a bed would be attractive a large portion of the year.

PLANTING UNDER BIRCH TREE (M. T. F.).—As the soil under the Birch tree is so very poor it will be necessary to introduce some fresh before any planting can succeed. First, the surface should be lightly forked over and if, as is probable, dry, thoroughly watered. Then a fair quantity of fresh soil should be spread over the ground to be planted. This new soil need not be especially rich—ordinary kitchen garden soil would be suitable. The best evergreen under-shrubs are Box, Euonymus japonicus, common Holly, Phillyrea, Box-leaved Privet, Rhododendron ponticum, Osmanthus, Yew and Berberis.

FRAGRANT FOLIAGE (T. H. H., Warwickshire).—In addition to Lavender, Rosemary and Southernwood ("Old Man") there are many hardy plants or shrubs which yield their fragrance on slight bruising, though in this connection it must be remembered that we do not all agree as to which odours are fragrant and the reverse. The commonest include Angelica, Allspice, Artemesia, Bay, Basil, Balm, Cistus, Cotton Lavender, Eucalyptus, Fennel, Harrison's Musk, Mints, Marjoram, Pines and various other conifers, such as many species of Cupressus and Thuya, Rue and Wormwood. While for the greenhouse there are many Cape Pelargoniums, the lemon-scented Verbena (Lippia citriodora), Eucalyptus citriodora, Diosma ericoides and the Orange family.

PLANTING IN POOR SOILS (M. T. F.).—It has been an all too common experience to have many shrubs and plants killed by the drought this year, even old established examples on fairly good soil have died, so it was only to be expected that losses would occur where the conditions were not good. To safeguard, as far as possible, against a recurrence the preparations for replanting should be as thorough as circumstances will permit. Everything that can be spared in the nature of soil and humus should be added to the flower border and beds, as well as a liberal supply of natural manure, before commencing any replanting. The primary object of the planter should be to increase the depth of the soil and its moisture retaining capabilities as well as its fertility. With this end in view it will be found to be good practice to set aside a small enclosure, conveniently near to the flower garden for choice, where all the considerable quantity of garden rubbish that a garden makes during the year may be accumulated. In our correspondent's case this *cache* could probably be situated at the back of the border next the palings farthest from the house, where it could easily be screened by a short row of evergreen shrubs. In this small enclosure should be placed lawn mowings, sweepings, weeds, plant trimmings and the like. Such vegetable matter should not be burnt—the garden rubbish fire should be reserved for woody accumulations which would otherwise decay only very slowly. In the course of a season it would be found that the enclosure contained a very appreciable quantity which, by the early spring of the next year, would have decayed sufficiently to be dug into the borders. In such a poor and dry soil as that described by our correspondent, this extra supply of humus would be very valuable if only for the additional reserve of moisture it would hold. By such methods as those briefly outlined it would in a couple of years be found that the erstwhile unpromising soil would be capable of growing any hardy plants that are desired. For next season a start could be made with the following: Achillea Ptarmica fl. pl., Alyssum saxatile compactum, A. s. citrinum, Anemone japonica, Anthemis tinctoria Aquilegias, Bocconia cordata, Campanula lactiflora, C. latifolia, Centranthus ruber, Clematis integrifolia, Dianthus in variety, Echinops Ritro, Erigeron hybridus, E. philadelphicum, Eryngium Oliverianum, Galega officinalis, German Irises, Gypsophila paniculata, Heleniums, Heucheras (to be transplanted annually), single Hollyhocks, Lupines, Lysimachia clethroides, L. thyrsiflora, Lythrum roseum, Mimulus Bartonii, Nepeta Mussini, Œnotheras, Pentstemons, Salvia uliginosa, Polygonum amphibium, P. amplexicaule, Saponaria officinalis fl. pl., Sisyrinchium striatum and Verbascums. For the front of the border the common Thrift and Armeria Laucheana, with Aubrietias, Arabis, Iberis sempervirens, various Helianthemums and such dwarf Thymes as Thymus Serpyllum varieties would be suitable as also would Rosemary, Lavender, Southernwood and Sweet Briar for the middle distance.

ROSE GARDEN.

ROSA SERICEA PTERACANTHA (A. R. A., Pitlochry).—The species is quite hardy. It is listed by Mr. Elisha J. Hicks, Hurst, Berkshire, and probably by other growers.

ROSE FOR IDENTIFICATION (S. C., Norwich).—The Rose we believe to be Mrs. Henry Morse. Often the catalogue descriptions are misleading and one would have to look hard to find any scarlet in this Rose, although in summer there is a rich hue of vermilion in the buds.

PRUNING SPECIMEN (C. M. Harriott).—The Rose we believe to be Aimée Vibert. Old wood should be cut out freely; otherwise moderate pruning is best. All small lateral shoots are best cut back hard in spring. It is a climbing Rose and especially beautiful in autumn.

CHALK SUBSOIL (Miss W. G. B., Hants).—Roses should do well with our correspondent if she can make up the beds with an addition of cow manure and loam. The coarse gravel on chalk is not by any means ideal for Roses. We can recommend: Pinks, Mme. Léon Pain, Lady A. Stanley; reds, Lieutenant Chauré, W. C. Gaunt; yellows, Mme. Ravary, Mrs. Wemyss Quin; whites, Frau Karl Druschki, Mme. Jules Bouche.

TREES AND SHRUBS.

WALL SHRUBS FOR DRY POSITIONS (M. K., Norfolk.).—For the south-east wall we suggest Forsythia suspensa, Kerria japonica or Stauntonia hexaphylla as additions to the shrubs named in the list, while for the south-west wall Leptospermum Nicholiii, Indigofera Gerardiana or Ceanothus Veitchiana would be suitable. As the position is hot and dry it will be necessary to make good soil preparations and a mulching during the dry season would also be advisable. For the dry bank, where grass refused to grow, the small-leaved Ivy might be tried.

HEDGE TO FORM A SCREEN (G. B., Renfrewshire).—Probably the quickest results would be obtained from the Douglas Fir, which makes an uncommon and handsome hedge in a short space of time. Three year old plants set at 3ft. apart would be very suitable, unless the position is exposed, when a less distance from plant to plant would be advisable. If the ground is of average quality it would be sufficient to dig the site over to a depth of 1ft., but the better the preparations the more vigorous will be the growth of the trees. After cultivation consists in frequent hoeings of the surface soil to keep down weeds and to aerate the soil, and pruning. With such hedges it is usual to prune annually during August, which allows time for short secondary growth before winter sets in and ensures that the hedge is shapely throughout that season and well into spring. The cost of hedge making and planting is a matter for local consideration and one on which we cannot venture an opinion without a knowledge of such circumstances as the nature of soil and situation and the local cost of labour. But any reputable local nurseryman would quote for the plants and if requested would give an approximate estimate of the total cost.

SEASON FOR PRUNING HARDY SHRUBS (A., Dublin).—As a general rule the sorts which flower on the same season's growths may be pruned during the previous winter or early in spring, while the others—which are the great majority—should have any necessary pruning done immediately the flowering is over, but in the case of the late flowering sorts the pruning should not be too vigorous. When in doubt, it is safer and wiser to be content with thinning out the shrub by removing weakly shoots, until the proper treatment is understood. With regard to the shrubs specifically mentioned, the tangled Berberis should merely be thinned, unless they are hopeless thickets, when it would probably be best to sacrifice a season and cut them down during the early spring. Philadelphus may have the entire flowering shoots cut off so as to encourage the formation of new shoots from the bottom. This method will result in dwarfer bushes, but more and better flowers. Buddleia Veitchii should be pruned hard rather late in spring. Buddleia variabilis and its varieties, of which Veitchii is one, commences to grow very early in the year, so the pruning must be delayed until there is no danger of injury by frosts. Weigelias should be pruned immediately after flowering. We have noted our correspondent's suggestions.

TREES TO BACK A ROCK GARDEN (Walmley).—Your climate at Walmley is relatively cold compared even with that in central Warwickshire, so that Cupressus macrocarpa, so useful in the South, would probably not succeed. Cupressus Lawsoniana Fraseri is admirable in colour and has dignity and grace. We should suggest to plant these 4ft. apart as you wish to form a screen, employing young trees, say those about 6ft. high. They are fairly quick growing. Procure an extra tree or so and use them to break the hard, straight line. You will, of course, plant small-growing shrubs in your rockery. If you plant a few not too large growing ones before your evergreen screen in addition, you will not find it wasted space. There is here a great variety, but Exochorda Alberti macrantha or grandiflora and some of the Escallonias would come naturally to mind. If this answer is not sufficiently explicit write the Editor again.

FRUIT UNDER GLASS.

UNHEATED VINERY (T. N. T., St. Hellers).—The outside Vine borders would repay for proper top-dressing, rather than the indiscriminate digging in of stable manure. The old surface soil should be carefully removed until

roots are reached, and then replaced with a mixture of roughly-chopped, fibrous loam, one-fifth part of lime rubble or broken bricks, a little charcoal and bone-meal at the rate of a 6in. flowerpotful to each wheel-barrow load of soil. The whole should be thoroughly well mixed together and then trodden firmly. If this is considered impracticable the next best method, in the circumstances, would be to top-dress the border with the bone-meal, spreading it at the rate of 1lb. to each 5 square yards during the autumn. As a spring dressing use sulphate of ammonia one part, superphosphate three parts and sulphate of potash one part; spread at the rate of 1½lbs. to each 5 square yards. There appears no reason why Cucumbers could not be successfully grown in the bricked border, as outlined by our correspondent: but Beans would scarcely be likely to succeed in front of the Peach tree, nor would this method benefit the Peach. If, as seems probable, there is vacant wall space this could well be utilised for growing Tomatoes next season.

GRAPES FOR IDENTIFICATION (M. D.).—The fruit sent for identification is, we believe, Lady Downe's Seedling. It is not possible to identify correctly from a few berries, as much depends on shape of bunch and character of the foliage.

KITCHEN GARDEN.

BRUSSELS SPROUTS FAILING (H. D. R.).—Except where there have been abundant supplies of water, Brussels Sprouts have done badly this year. It is now too late to do anything to improve matters. The best plan would be to cut and cook the heads so as to have the ground available for early digging.

CULTIVATION OF ASPARAGUS KALE (J. B., Troon).—This vegetable is one of the most appreciated of our winter and spring greens. Unfortunately it is not so hardy as are many of our other Kales, but if planted in firm soil on land previously well cultivated and liberally manured for a crop the year before, the plants should stand the winter and spring frosts of an ordinary season very well. A good plan is to make three sowings, early in March, again in April, and yet again in May. Do not let the plants stand too long in the seed bed as they will become drawn and spoiled. It is an excellent plan to transplant the seedlings as soon as they are large enough to handle, at say 5ins. apart. Treated in this way they will make fine, sturdy, dwarf plants. Let the same be planted in their permanent quarters, say 3ft. apart, that is for the first sown plants. Later sown to be planted nearer together. Plant with a trowel, with a good ball of soil secured to each plant. For cooking purposes the mid-rib of the leaf only is used, cutting away the cabbagy part of the leaf to within ¼in. of the mid-rib. (The cabbage part is also cooked by itself where greens are scarce, but is not of much account.) For boiling purposes the mid-ribs are tied into small bundles in the same way as Asparagus, the after cooking and serving being the same. Cooked and served in this way this Kale is delicious.

MISCELLANEOUS.

POULTRY MANURE AND A LIME QUESTION (H. D. R., Wareham).—The objection sometimes raised to the use of poultry manure is that when wet it is sticky and pasty and when dry it is lumpy, and so difficult to distribute evenly. Also it is sometimes said to be "hot," so that possible burning of the roots may result. But with ordinary care these objections can be overcome and this valuable manure used with safety. It is best to allow the manure to "lay up" under cover mixed with old potting soil, or, failing this, moderately dry soil from the kitchen garden, for a time before use. The mixing with leaf mould and decayed vegetable produce, as described by our correspondent is quite good if the poultry manure can be broken up moderately small. The rate of application must be governed by the proportion of soil mixed with the manure, and the nature of the poultry food, but as a general guide if mixed with an equal quantity of dry soil it may be used, either as a top dressing or dug into the soil in spring at the rate of about 2lb. per square yard. Assuming that freshly slaked lime is meant, the best time for its application is during the winter, but it should not be brought into contact with the poultry or any animal manure, or such chemicals as sulphate of ammonia, otherwise a loss of nitrogen will result.

JERUSALEM ARTICHOKES FLOWERING AND OTHER QUERIES (C. B. F., Farnham).—Although the Jerusalem Artichoke does not flower regularly in this country, yet rarely a season passes but that its blooming is recorded somewhere, so it is not surprising to find it in bloom at the present time. The Rose Bay Willow Herb has, of course, become a very common weed of late years, though time was when it was, if not relatively rare, at least rather local. Our correspondent in the recent issue intended to draw attention to this fact and to its graceful beauty rather than to suggest that it is now rare. Sulphate of ammonia enters largely into the composition of some lawn sands and weed killers and for a considerable time has been used by some gardeners in the manner described. We are in agreement with our correspondent's opinion of the value of Irish Peach as a first rate early dessert Apple but we cannot agree that its merits are overlooked by the gardener.

A SUBSTITUTE FOR STABLE MANURE (J. M.).—The preparations you name, while both excellent in their way, are not suitable for your purpose. A great deal of the value of stable manure rests not in its actual fertilising power at all, but in the beneficial effect it has on the texture of the soil and in the humus it provides. As such manure is unprocurable, Wakeley's Hop Manure, which has the desired bulk and humus giving qualities, would be a far better substitute than those suggested.

FRENCH BEANS IN COLD HOUSE (T. N. T., St. Heliers).—As the cost of the seed is trifling, we should be inclined to sow the dwarf French Beans in the cold house now in such a favoured climate as the Channel Isles. If they fail, the only loss is the value of the seeds, and there would remain time for an early spring sowing. During cold nights it would be worth while affording some protection. If sticks about 18ins. high are placed at frequent intervals, sheets of newspaper could be spread over the Beans, and this would be sufficient protection from light frosts.

CHEAP, HARDY FERNS (H. J. L., Reading).—*Cheap* plants are usually the most expensive when one counts up the losses and works out the cost of the thriving plants that remain. Even though it is intended to plant in quantity, we advise our correspondent to first obtain quotations from a reliable grower, such as Mr. Amos Perry, of Enfield.

NAMES OF PLANTS.—H. E. T., Yorks.—Helxine Solierolii.

NAMES OF FRUIT.—H. E. T., Yorks.—Apples: 1, Lord Burghley; 2, Bramley's Seedling; 3, Potts' Seedling; 4, Mank's Codlin; 5, King Harry; 6, Keswick Codlin.——H. S., Hants.—The numbers had become detached on arrival so we could not identify fruits.

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THE GARDEN

No. 2609.—Vol. LXXXV.]

NOTES OF THE WEEK

[November 19, 1921.

IT is with the deepest regret that we learn of the death of Mr. E. H. Jenkins, one of the oldest and most valued contributors to our pages. The article on Herbaceous Phloxes which appears in this issue came but recently to hand. In a letter which accompanied it he said that since writing last he had had a set-back, but was better now and hoped the improvement would continue. Mr. Jenkins had a seizure on Sunday, October 30th, and passed quietly away on Tuesday, the 8th inst. His friends had hoped that the bulldog courage which had carried him through so much would have availed to restore him to health. It was not to be, however, and the familiar figure and snowy beard will not be seen abroad again.

British Bulbs.—It is to be feared that our readers, or some of them, are getting tired of our efforts to improve the status of our Home bulb industry, and we had intended after last week's notes, which represented the Editor's considered opinion on the matter, to devote the "Notes of the Week" page to matters of more personal interest to most readers. Already we have heard the suggestion made, however, that The Garden is attempting to inaugurate a trust or combine. As a fact, the proposals put forward would produce nothing of the kind. There is the keenest competition between the various tyre manufacturers Palmer and Dunlop, Wood-Milne and Almagam—to mention but a few of the firms whose names are "shouted" from the hoardings and salute one from the printed page—are as keen on getting one another's trade as any four firms of bulb-growers can possibly be. They realise, however, that the only way of checking the inroads of the foreigner is to meet him with a united front, and so from time to time we see those joint advertisements which bear the names of all the great tyre firms. Exactly the same thing applies to the electric-lamp manufacturers. There is no combine, and if there were the public would be more likely to benefit pecuniarily by the assistance the firms could render each other than suffer because of an artificial inflation of prices. Foreign competition will effectually prevent any profiteering, whether in electric light bulbs or in those whose "flowers" are radiant.

An Anniversary.—Our next issue will mark the fiftieth anniversary of the founding of The Garden by Mr. William Robinson, the veteran author of "The English Flower Garden," whose beautiful grounds at Gravetye Manor might truly be described as world-famous. The last half century has seen many changes in manners and customs of every kind, but in no field of endeavour or recreation have there been greater changes than in gardening. Most of the changes which Mr. Robinson advocated fifty years ago are to-day accomplished facts. That he did much to forward such changes is beyond question. As is but fitting, our next issue, therefore, will contain a record of the progress in gardening matters over five decades.

Hardy Fruits.—The Imperial Fruit Show has come and gone, and it is to be feared that the English growers who staged such magnificent exhibits there were not too well repaid by orders taken for the very considerable outlay entailed. The show was, in truth, more interesting to the retail fruiterer, who was given an opportunity to see the best English and Colonial packs, and so to appraise them at their true worth, and to the small grower for market, who must have learnt lessons of co-operative packing and grading which should "stick." As a varied display of choice fruit it did not approach the autumn fruit show of the R.H.S., nor did it appear to be attended by so likely a class of buyer. Considerable feeling was evidenced in the "trade" by the allotment of a stand for the display of fruit stocks to a well known Dutch firm. English fruit stock growers failed to see anything "Imperial" about that! There is a fair quantity of fruit trees in British nurseries for disposal this season, especially in the smaller sizes. The quality on the whole is excellent, but this season's peculiarities (to put it mildly) have so far prevented lifting. The change of weather, however, will soon put a different complexion on matters. Considerable space has already been devoted this autumn to the cultivation of hardy fruits, but it is a subject of wide general interest, and we purpose including in our next issue one or two really good articles on this important subject.

The Stonecrops.—Beauty can sometimes be obtained with the simplest materials, and those but sparingly employed: a beauty which quite frequently eludes one in more elaborate designs. The Sedum family is composed for the most part of plants of the easiest culture—many of them too "easy" for the choice rockery, for instance. To this ease of culture they unite, in many instances, a simple unaffected beauty both in growth and flower. These two excellent qualities make them invaluable for the adornment of old walls. The plant illustrated—Sedum acre—is one of the commonest of all and, in its proper place, one of the most effective. Many people much admire the Hart's Tongue clad walls of the Devonshire lanes. The Harts' Tongues, however, are so numerous that, in general, it needs some observation to detect the walls at all. The reason lies, of course, in the climate; but how much better those roadside walls would look if their lichen-clad stones were more plainly visible, their monotony broken here and there by the starry trails of Sedum acre or the bronzed clumps of S. album with its springtide drifts of "snow." Even a rough stone wall may have all its simple beauty destroyed by an excess of vegetation.

SIMPLE BEAUTY. SEDUM ACRE ON A DRY STONE WALL.

THE GARDENS at CHECKENDON COURT

These grounds illustrate admirably the possibilities of gardens adjoining woodland. The advantage of personality, too, is markedly felt.

SOME seven or eight miles from Reading, the county town of Berkshire, the village of Checkendon lies amid the Chiltern Beechwoods which we are wont to associate with "beautiful Bucks." It lies, none the less, in the administrative county of Oxford.

The property is an old one, dating back to the days of Elizabeth. It has been modernised by its present owner, Mr. F. S. Oliver, and the south-eastern angle, which had fallen to decay, he has had restored, advantage being taken of the opportunity to introduce the very beautiful and practical loggia illustrated on page 578.

For the lay-out of the gardens behind the house—that is, those lying to the south-west of the line of the entrance front—Mrs. Oliver is responsible, while the larger treatment of the grounds beyond the forecourt represents Mr. Oliver's contribution to the scheme.

The approach to the house from the high road is at once quaint and charming, as the drive turns in immediately beneath the walls of the God's Acre which surround the little old church. The Irish Yews which define the roadway on the left are balanced on the right, as already explained, by the churchyard wall. This left behind, Yews are planted on the right also, so forming an avenue.

The forecourt is an oval of gravel defined by a Yew hedge, broken opposite the front door to allow a vista, of which more anon. The hedge is pillared at the openings.

Passing through the house, which is of that moderate size now so much in favour and at once tastefully and comfortably furnished, we come, at its south-eastern end—the entrance front faces north-east—to one of the most pleasing and useful loggias one could wish to find. Excellently proportioned, its simple, but shapely, pillars, which have to sustain the weight of the two-storeyed gable, are of Ham Hill stone, which is here, as always, beautifully marked. A more suitable and restful open-air apartment would be difficult to imagine.

From the loggia there are two openings to the gardens, the one leading south-eastwards to a walled-in garden which encloses a rather small sunk garden, and the other south-westwards to a small but pleasing paved court. The walled-in garden, which has doors opening to the forecourt and drive respectively, has Rambler Roses and such other climbers on its walls as Jasminum officinale, Ceanothus Gloire de Versailles and Carpentaria californica. The rather narrow borders beneath are filled with Tree Lupins, Alkanets, Campanula lactiflora and other suitable herbaceous plants.

The three specimen Thuya Lobbii which are seen in the picture are of considerable age and, of course, ante-date Mr. Oliver's occupation. Four standard Weeping Roses emphasise the angles of the oblong pool in the sunk garden. The varieties are Excelsa and René André. From the walled garden access is obtained in a south-westerly direction down a few steps to the "Spring garden," to which form is given by standard fruit trees and Roses, the central path being defined by a hedge of pleached Grüss an Teplitz. The north-western side of this garden is distinguished by a walk, defined by Cupressus Lawsoniana erecta viridis.

Still progressing in a south-westerly direction, we come to the round garden, which is of no great size. It is surrounded by a bank of earth, giving it somewhat the appearance of a Roman encampment. The bank is, however, quite modern, being, in fact, the soil excavated when the sunk garden was made. The round garden has an octagonal pool in the centre with a Nymphæa or so. The pool, which has dressed stone coping, is surrounded by a border of dwarf plants—Nepeta, Thymes, Cerastium, Arenaria and Saxifraga ligulata (Megasea). Behind the border runs a path of crazy paving, upon which paths parallel with the walls of the house converge. Behind the circle of the crazy paving twelve Roses on poles give form and balance to the garden. Behind these, again, comes greensward, broken by small beds of dwarf Roses and Violas; and, yet further back, the bank referred to, which is planted with Rock Roses and other drought-loving plants.

From the round garden a way lies south-westerly to a herbaceous walk which forms part of a considerable vista. On right and left a Yew hedge backs the border. Behind the one on our left lie 6ft. or 8ft. of turf and a sunk fence, which defines the garden in this, the south-western, direction. At a cross vista a little further on

ROSES AND LAVENDER AND A GLIMPSE OF WOODLAND.

there stands a tall columnar sundial, and at an equal distance beyond, three shallow steps give access to the small rose garden illustrated. The herbaceous borders bore sad evidence of the ravages of the drought, which, however, had failed to extinguish altogether their quiet beauty and dignity. Under better weather conditions they would, no doubt, be very beautiful. The rose pergola with turned wooden columns leads back to the house. The pergola is draped with Roses and Vines, and the wall behind is closely covered by the white Jasmines.

Returning for a moment to the kitchen garden, the cross vista of which we have spoken leads towards the north-east across a hard tennis court on the line of the drive and forecourt, and so have a perfection of form never seen except in woodland or some few Gothic cathedrals. Turning about and looking towards Checkendon, we are too near the edge of the wood to feel the perfection of the arch lines, but across an unusual expanse of shaven lawn our eyes, led by openings in two Box hedges at right angles to our line of vision, fall at last on the old church and its tower, thus

WROUGHT IRON GATES WHICH DIVIDE WOODLAND FROM GARDEN.

The sundial marks the axial line of the kitchen garden. The close association of garden and woodland is particularly charming.

THE VISTA FROM THE FORECOURT.

The nearer cross openings represent the line of the great avenue and define a vista which to the right terminates in Checkendon Church tower.

garden, as the picture shows, is quite small, but it must be remembered that Roses are very largely used for garden decoration, no attempt being made to confine them to one portion of the grounds. The most remarkable features of this little garden, of which the arrangement is apparent from the illustration on page 576, are the Lavender with which the Roses are associated—an excellent idea—and two plants of the beautiful Rosa Moyesii, which is charming alike in growth and flower.

Much of the beauty of this little garden rests in its setting of trees. Immediately beyond it a pair of oak gates give access to the woodland, through which the path and vista are continued for 80yds. or so, terminating at last in a seat. The path bears now right-handed through the timber, which, following, we strike another vista from the gardens, also terminating, some distance to our left, in a seat. Turning right-handed, we discover that readmission to the gardens is here obtained by the very pleasing wrought gates shown on this page. The path shown leads across the kitchen garden, of which the axial path crosses where the sundial is shown, past borders where some of the Allwoodii and other new strains of Pink were under trial, across the lawn on the south-western (garden) front of the house and so to the top end of the "Spring" garden.

Immediately behind the potting-shed and other buildings which almost abut on this path a short across a stretch of lawn or playing field, up a scarcely noticeable incline across the old bowling green, which is believed to date back to the sixteenth century. Still further on, the vista is closed by a glistening mass of white Poplar.

Turning now, for a moment, our eyes in the opposite direction, we look across kitchen garden and herbaceous walk and, our view uninterrupted by the level meadowland, find our vision limited at last by a wooded hillside some considerable distance away.

Without delaying longer to inspect the neatly laid out kitchen garden, though a well grown pillar of Blush Rambler is calling for admiration, we will retrace our steps through the wrought-iron gates into the woodland. Coming once more to the cross paths and clearing from which our steps were tempted by the wrought gates, we turn to the right and presently approach a more considerable clearing which, when we reach it, resolves itself into a vast aisle of growing timber, stretching on our left hand a quarter of a mile or more until it reaches the open country. Part of the woodland through which this clearing passes—it is said, by the way, to represent the old church walk—belongs to Mr. Oliver, part to a neighbour, and a wire fence and wicket gate mark the boundary. This man-made barrier, however, in no way detracts from the grand and simple beauty of the great living tunnel, of which the arch lines seen at a most favourable angle. Two beautiful pictures are thus presented which are worth going far to see. There is much pure delight to be found in a little garden, but there are sure to come times to the *multum in parvo* gardener when Nature at her best and grandest makes him intensely dissatisfied with his pigmy efforts to make her produce beauty. This magnificent and perennially beautiful vista which traverses his grounds, and which, be it said, he has most skilfully utilised, must be a constant inspiration to Mr. Oliver in his gardening operations.

Let us follow now the line of vista towards the church, when we find that the two lines of Box already noted as defining our line of vision form boundaries to the vista across the forecourt from the entrance front of the house.

The great circle of Box which marks the centre of the broad stretch of greensward is unprecedented in the writer's experience. The hedge which defines the further end of the lawn is of Beech, and five or six paces further on there is a Holly hedge parallel with it. The grass walk thus formed terminates at either end in a Blue Atlas Cedar. These trees are as yet, however, of no great size. Walking for about 20yds. or so from the opening alongside the Beech hedge, we come to the great bowling green already mentioned, which is divided from the remainder of the greensward only by a shallow [illegible]

to the eye until attention is drawn to it. Across the bowling green at the edge of the woodland there are topiary arches and columns in Yew and Holly, while the further opening seen in the Box hedges corresponds with one leading back into the woodland and, ultimately, to the point where first we struck the great living aisle.

CHECKENDON COURT FROM THE SOUTH-EAST, WITH THE SUNK GARDEN IN THE FOREGROUND.

To the south-west of the loggia is seen the little paved court.

Retracing our steps and pursuing our way down the vista from the entrance front, immediately beyond the Holly hedge referred to we find a double avenue of young Sweet and Horse Chestnuts planted alternately. Mr. Oliver's idea in planting them so was to use the Horse Chestnuts for more immediate effect, but ultimately to take them out in favour of the slower growing Sweet Chestnuts. These last when they arrived were big, stout trees not apparently too well rooted, so that Mr. Oliver was doubtful of their success. Somewhat to his surprise, however, they have flourished exceedingly. They are decidedly bigger than the Horse Chestnuts now and look happier and healthier in every way. The soil evidently suits them.

Beyond these, the grassy way we follow is cut straight through a spinney of Beech trees, and, beyond, a plantation of young Conifers, 12ft. or 15ft. high, has not yet weight enough effectively to define the vista which presently terminates at a gate to the yard of the Home Farm. As we retrace our steps and note how charming is the glimpse of the Court framed by the Beech trees of the spinney, it is very apparent how increasingly beautiful this feature will become as Time shall gradually perfect what Mr. Oliver has so well begun.

These gardens are in some ways very unusual, and they convey lessons which even the foremost landscape gardeners might be glad to learn. To speak quite frankly, they are not perfect—there is what appears to be a lack of purpose noticeable about the southern corner, where the junctions of the several gardens and the general arrangement lack simplicity and breadth. The herbaceous borders, too, while pleasing, are rather narrow, so that it is a little difficult to get the breadth of effect so much to be desired. Yet these and a few other little imperfections notwithstanding—and the garden without imperfections is usually very soulless—there is a charm here which is undoubted, but which is difficult altogether to define. The way in which the essential unity of garden and woodland is so admirably emphasised while the garden limits are none the less clearly defined is one source of charm. A certain personality which seems to mark every pathway and turning is another. In speaking thus, one's thoughts go chiefly to the garden proper, in which the feminine touch is evident. When one passes to the front of the house a certain readjustment of values is necessary, and it is well to arrive there *via* the woodland. Here the treatment is severely simple, even austere.

The great stretch of greensward unlightened by a single flower is rather emphasised than otherwise by the big circle of Box and the formal way which leads to it. On first sight the austerity of it all is a little overpowering, but on longer acquaintance, one appreciates it more. Always quiet and restful, this severe study in formal lines of verdure must give wonderful effects of contrast when the woodland is bare in winter and also at that season before the fall when the Beeches are a shimmer of gold.

We have here a set of gardens to an old house—the beautiful mature colouring of the brickwork the illustration cannot convey—gardens newly formed and new in feeling and design. It is very certain that in the "spacious days" of the Virgin Queen there was nothing spacious about the style of gardening. Extensive gardens there were in those days, spacious ones assuredly there were not. This being so, it is interesting to see how these very modern gardens harmonise with the old building of the Court, much of which must date back to the seventeenth century. In truth, they seem to fit it like the proverbial "old glove." The only part of the gardens which could worry the most exacting fails not in its breadth of treatment, but in its lack of it. The fact is that any house with the slightest pretension to beauty of form or colouring is improved by breadth of setting. In gardens, as in gowns, that simple naturalness or natural simplicity which *looks* so easy to obtain will always give delight.

UNCOMMON TULIPS FOR POTS

No bulbous flower is more esteemed as a pot plant than the Tulip. These notes on some seldom seen varieties should therefore be of general interest.

THE protection of glass without or with heat has, we know, the effect of softening colours. No Tulip shows the truth of this remark better than Sweet Lavender, once known as William Copland. The change of name marks a distinction no less profound than that which signalised the alteration of Saul to Paul. William Copland we knew as an uninviting, dull-looking mauve which very nearly got kicked out of our gardens. Sweet Lavender is a charming blush toned lavender as it is now grown under glass in pots.

A similar change, but not so pronounced, takes place in others and is one of the causes, which goes to make a good pot plant. Another is strength of stem. What are known as Dutch Breeders have lately come to the front, so much so that Barrs in their list have a section called "Old Dutch Tulips." They are not all Breeders, but very many of them are. The Editor of the Dutch gardening paper, *Floralia*, is very keen on these when forced or grown under glass, and he has infected me with his enthusiasm. I am having a trial next year. The ones I expect to do are the splendid tall, nicely baked, biscuit-coloured Clio (syn. Bronze Queen); the deep rich browny yellow Poison d'Or (syn. Golden Bronze); the rich deep toned orange red Panorama (syn. Fairy. It must be after a Dutch one); Velvet King (syn. Velvet Gem), a grand and glorious dark purple; the stately tortoiseshell and dark yellow Goiedvink; the quietly beautiful deep purple and coppery brown Louis XIV; the unusual rosy apricot and deep orange colour Vulcan; and Dom Pedro, a real brown of a most pleasing shade.

In the English Cottage section anyone is hard to satisfy who does not appreciate the bright vermilion of Marksman. We found it as taking when we tried it this year under glass for March flowering, as it is outdoors, where in my opinion it holds a very high place indeed. I love the fresh bright rose of Cassandra and find it excellent for late flowering in pots. It is one to try, and so is John Ruskin. The rainbow-like combination of rose, apricot and yellow becomes very lovely under the kindly protection of a greenhouse.

Darwins offer a wide field. I myself am trying two for the first time of which I have heard and read a great deal, Le Notre and Hypolite. From a Tulip called after the most magnificent of gardeners one expects much. It is described as a beautiful rosy pink when grown in pots and said to be an A 1 forcer. Not that I call March flowering forcing; forwarding would be a truer and more expressive word to use. Those who start after these words are read must be content, for this time at all events, with forwarding; possibly it will have to be only an early April one. Even that I think is worth doing, for the season outside is a very short one and a week or two's extension is admissible.

How I pray that we may never have perpetual-flowering Tulips; one gets a bit "fed up" with plants that never stop blooming. Can one have or cannot one have too much of a good thing? that is the question. Let others answer as they will. I am very much inclined to think I can

and that a good many others are like minded with myself. Else, why does a Douglas, a Farrer and a Wilson travel in unknown flower lands? Why do hybridisers like a Heal, a Beckett, a McGredy and an Engleheart work? What unties the purse strings of the purchaser like a new Orchid? What gave the Tulip mania of 1635–37 its start but the wish of the golden youths of Paris to give a still more uncommon flower to their "flames"? Why these notes?

To continue where they left off before this digression began. I am trying Hypolite under glass for the first time. Our little patch made a great impression this year, and it is being given a good pot trial. I read in a catalogue that it forces well, so I am very hopeful. There is a rather too prominent smoky brown observable in some of these mauves which detracts from their beauty, and I want to see if Hypolite is without it.

Venus will be my third Darwin to try for the first time. It is so charming outside that if its stem keeps all right it ought to be a most beautiful soft rose under glass.

In conclusion I must mention De Wet, the pure orange sport of that grand old Tulip, Prince of Austria; and Rose Tendre, a good white and rosy pink, ever so much better than the well known Cottage Maid. JOSEPH JACOB.

THE HERBACEOUS PHLOX

Autumn planting is strongly recommended wherever possible. Open ground plants are preferred to those grown in pots. Instructions are given as to food requirements, also a list of recommendable varieties.

DESPITE the fact that I do not regard the Phlox as a fastidious subject, and with knowledge that if planted at other times the work is attended by a fair measure of success, I still hold the view—it is a deep-rooted conviction based on ripe experience — that autumn planting is by far the best and most prolific of good results. So much without prejudice, since for some special purpose or reason I have often planted in the spring of the year, and if needs be should do so again. Convenience and expediency, however, enter so largely into the planting of not a few hardy garden flowers, and so much plagiarism and so little originality of thought or aught else enters into the whole business that it is well occasionally to have a definite statement as to what is best for any particular plant. It is therefor. Here they are in brief. Firstly and most important of all, the Phlox is a perpetual-rooting subject, its huge mat of root-fibres in the established plant continuously active in all but the severest weather. Hence it is but logical to conclude that for re-establishing purposes and in the future interests of the plant the earlier this autumn planting is done the better the grip obtained of its new soil. Its chances of a good flowering in the ensuing year will be thereby greatly increased. In other words, the longer the period 'twixt planting and flowering the better. This, where light, much drained soils are in question, is particularly the case, and every gardener, amateur or professional, should note it well. Contrarily, the nearer the planting is to the flowering period the fewer the chances of either adequate growth or good flowering.

THE VALUE OF PHLOX DECUSSATA FOR MASSING.

the more important because book writers—compilers and others of little practical experience or backbone in such matters—have nothing but platitudes to offer—nothing savouring of definite help or guidance to amateur or beginner.

Having declared for a definite season for planting, it is up to me to supply the reasons

A few remarks anent the best type of plant may not be out of place. In "The Hardy Flower Book," published at the offices of THE GARDEN, I have on page 7 a paragraph headed "The fallacy of the big clump," which in this connexion is worth consulting by all interested in planting these and other herbaceous perennials Generally and as a matter of fact the "big clump" is also a very big mistake; yet not a few, regardless of its age and congested character, think the clump all in all. Invariably the youthful plant is capable of infinitely better work, as it will go ahead without looking back. In the Phlox the ideal is that resulting from the spring-rooted cutting planted in good soil in the open forthwith, without potting or aught else that hinders progress. Such an one will have a stem of almost cedar-wood pencil size, be endowed with a plenitude of active roots and furnished at the stem's base with three to six shoots. Should the maximum obtain, the half of them will be better discarded: the remainder will each carry a good truss of flowers in the July following. The worst type of plant is that of woody rootstock; if old, it is fit only for the bonfire. The starvling of the pot, too, is bad, and if received, its hard ball should be broken and the roots relieved before planting. To plant it with the hard ball intact is to court failure. In planting, keep the plants 2ins. below the surface, spreading the roots laterally, which is their natural direction of growth.

The appetite of the Phlox is great and requires generous catering. Few hardy perennials, indeed, are more voraciously inclined, a fact readily accounted for by the mat forming mass of fibres which are very largely surface rooting, a fact which should be kept in mind when treating the soil and finishing planting. Next to generous manuring and soil enrichment, water and liquid manure in the growing season is all-important. Even in winter time where the soil is light and much drained I have resorted to liquid manure for established specimen beds of these plants, and have remarked upon the beneficial results. For anæmic-looking plants there is no better tonic. No plant that I recall more quickly responds to treatment. In fine, it is hardly possible to treat Herbaceous Phloxes too generously. With prolonged heat and drought, as in the past summer, deluging with water or liquid manure was essential to a good flowering. The free use of these, I imagine, enabled Mr. H. J. Jones to carry off at two successive meetings of the R.H.S. silver-gilt Banksian medals for his fine exhibits of these plants. In any case, in a year unparalleled for obstacles to good cultivation, the successes named were in the nature of achievements.

A good dozen for the beginner would be Aubrey Alder, rich salmon; Baron van Dedem, orange scarlet; Dr. Charcot, Parma Violet blue; Dr. Konigshöfer, brilliant orange scarlet; Elizabeth Campbell, the queen of salmon-coloured varieties; Europe, snow white, carmine eye; G. A. Strohlein, orange salmon; General van Heutsz, salmon red; Meteore, soft pink; Mrs. A. W. Alder, shell pink; Rijnstroom, rose scarlet; and Violetta, deep mauve. Fiancée, Flocon de Neige, Freifraulein von Lassberg, Sylphide, Infanta Eulalie and Mrs. E. H. Jenkins are all good pure white sorts. E. H. JENKINS.

FORTHCOMING EVENTS.

November 28.—National Chrysanthemum Society's Floral Committee Meeting, to be held at the Royal Horticultural Society's Hall, Westminster, at 3.15 p.m.

November 29.—Royal Horticultural Society's Fortnightly Show. Lecture at 3 p.m. by Dr A. B. Rendle, on "Plants of Interest in the Day's Exhibition."

November 30.—British Carnation Society's Show, to be held at the Royal Horticultural Society's Hall, Westminster.

THE NEW CHINESE BARBERRIES

Their value to the hybridist and a forecast of their future garden worth. The folly of granting pseudo-specific names to natural or artificial hybrids. The interest of seed raising.

THE exhibit of fruiting Barberries from the R.H.S. Gardens at a recent meeting at Vincent Square, poorly classified though it undoubtedly was, nevertheless formed a source of interest to almost every visitor to the hall. Yet these new hybrids and crosses represent but the earlier stages of the development of these berried treasures. If this can be done "in the green wood," what may not be produced eventually? Very few races of plants have species which not only hybridise readily as these do, but of which the hybrids are fertile. Unlike the Narcissus or Tulip, for instance, upon the hybridising of which such loving care has been and still is bestowed, these Barberries very quickly attain the fruiting stage. This is of the utmost advantage, since results may so readily be compared and unprofitable fields so quickly forsaken for those of better promise. The generality of our readers will only as yet possess B. Wilsonæ, B. polyantha and perhaps B. subcaulialata. Berberis Prattii and the very distinct form, rubrostilla, have not yet been widely cultivated. With so limited a selection, it is wonderful what difference these Asiatic species make in the autumnal garden.

The Barberries are indeed a wonderful family. Think of the giants of the genus. aristata, Hookeri (Wallichiana) and Knightii, to say nothing of the useful vulgaris, of the rich and brilliant Darwinii and the gracious stenophylla. Think again of the honey-sweet dulcis, of Thunbergii with its unrivalled autumn colour, of the quaint empetrifolia and of those large leaved forms, nepalensis and Fortunei, and oldest and most beautiful of all these large leaved forms, the common Mahonia (B. Aquifolium). To these add the golden spines, gracious habit and coral berries of Wilsonæ or subcaulialata, the bolder and more striking polyantha and the more rigid and perhaps more dignified rubrostilla; but instead of visualising these coral-berried beauties as individual species, imagine hybrids of every possible height, from a few inches to several feet, with an equal diversity of habit, appearance and berry.

Consider the family and its possibilities well, its great variety, its manifold attractions, beauty of foliage, wood, spines, blossoms and fruits—beauty in spring, summer, autumn and winter, and say is he too bold a prophet who shall say that before many years are past there will be more barberry dells than rose dells in Britain?

However that may be, the Berberis is undoubtedly one of the most popular shrubs to-day. It should achieve a popularity never attained by flowering shrub before.

Berberis rubrostilla is a chance hybrid that originated at Wisley, and probably many of the variations now showing from its seed do not represent effective crosses at all. They may quite easily be but the F_2 generation of the original (unknown) cross. The plant illustrated on this page, known as B. rubrostilla × B. polyantha bears every appearance of a genuine cross between rubrostilla and the species. It is if anything more erect in habit than B. rubrostilla, but the berries, which are almost as large, are carried in clusters of seven or eight, instead of singly or in twos or threes as on rubrostilla.

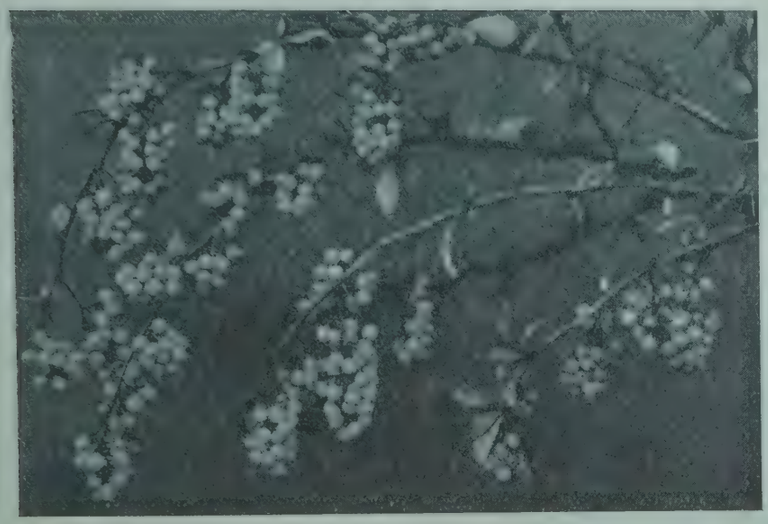
The other Berberis illustrated, called Coral, is another very pretty hybrid raised at Wisley. Its distinct coral berries tone satisfactorily with the brilliant colour the plant takes on previous to the fall of the leaf.

BERBERIS "RUBROSTILLA."

Showing the characteristic growth, with fruits carried singly or in small clusters.

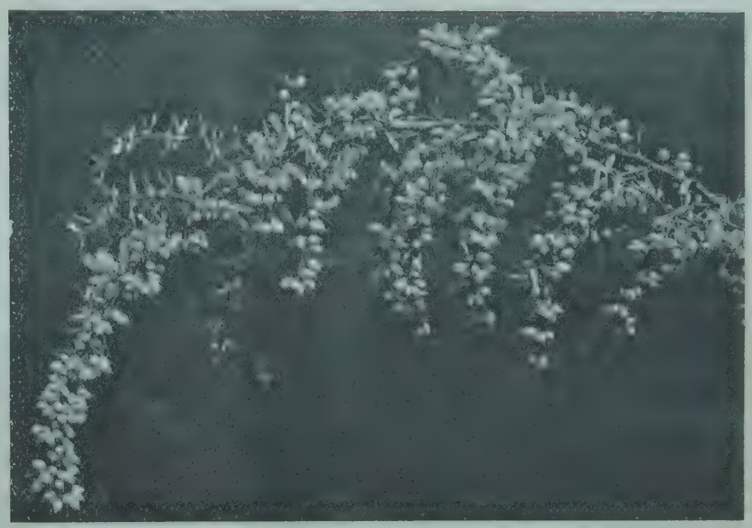
BERBERIS "RUBROSTILLA" × POLYANTHA.

Bears its fruits in larger clusters than "rubrostilla," but otherwise features ti very much in habit.



BERBERIS POLYANTHA

Combines, with a more arching habit of growth, trusses of small berries borne in great profusion.



BERBERIS CORAL

With clustered berries and tinted foliage in autumn is typical of many of the Royal Horticultural Society's hybrids or derivatives.

It is so far satisfactory that the Society are iving these crosses and derivatives simple escriptive names instead of pseudo-specific titles uch as was, unhappily, bestowed on Berberis ubrostilla. There is a natural inclination on he part of Mr. Pish-Pshaw, in his pride of parent-ood, to call the very beautiful and distinct new hybrid he has raised Pish-Pshawi. It is a repre-hensible inclination none the less and one which should be discountenanced by authority. Who shall correct Mr. Pish-Pshaw, however, if the supreme tribunal in matters horticultural give natural hybrids or derivatives raised under their auspices what certainly appear to be specific names?

The Society is offering seed of these new fruiting Barberries in its usual offer of plants and seeds to Fellows, and it may confidently be expected that they will be in great demand. There is always a fascination in raising novelties from seed. The fascination is increased when the results are so problematical as in this case.

THE CHRYSANTHEMUM SHOW

THE National Chrysanthemum Society are to be congratulated on the success of their venture in holding a two-day show of the "Golden Flower." Not only was the Horticultural Hall well filled with splendid exhibits, but, in spite of almost unceasing rain, there was a record attendance for the hall at this season. In fact, at times the attend-ance was far too great for comfort, and if the success of this Society continues, and there seems no reason why it should not, the executive will have to seek other and more ample accommodation for their annual show.

From a spectacular point of view it was the great trade exhibits that were the best. Mr. H. J. Jones, who left on Thursday even-ing to take another large collection to the important Le Mans Show in France, so that the honour of English chrysanthemists might be upheld, had a magnificent group of immense Japanese blooms and also countless numbers of the decorative types. The award of a large gold medal was well deserved. On the opposite side of the hall Messrs. W. Wells and Co., who have so long been associated with all that is best in the Chrysanthemum, also had an imposing gold medal array of all types of the flower

Messrs. Keith Luxford and Co. had an equally large collection on the other side of the entrance which also won a gold medal One of the most decorative exhibits was the large bank of useful-sized plants by Mr. Milton Hutchings. He had many plants of the new dwarf Blanche Poitevine—all very dwarf and bearing many good white blooms. Pourpre Poitevine was of gorgeously rich colouring, and his improved Freda Bedford was of richer, fuller colour than the type. Messrs. Godfrey brought from Devonshire many blooms, including a number of useful singles.

Nearly all the competitive classes were excellent, and the competition was keen. In spite of one of the most difficult and trying seasons on record for Chrysanthemum culture, the quality of the exhibition blooms was particularly good. Many were of immense size—too big for the boards, which they overcrowded. Mr. E. H. Pearce of the Lord Wandsworth Agricultural College, Long Sutton, Basingstoke, was the champion exhibitor, for he won first prizes with thirty-six and with eighteen magnificent show blooms. Of his many excellent varieties the very best were of Mrs. G. Drabble, William Rigby, Majestic, Miss D. L. Athron and Mrs. George Monro, Jun., the last named being of gloriously rich crimson colour.

The Holmes Memorial Prize was won by T. H. Mann, Esq., Trulls Hatch, Rotherfield, who had superb specimens of Victory, Thomas Lunt, Lord Fisher and Mrs. G. Drabble. Major Dalgety, Lockerley Hall, Romsey, had the best twenty-four blooms, but this col-lection, though showing expert culti-vation, lacked colour.

While these blooms on show boards excited wonder at the cultural skill they illustrated, it was those in vases, and we are glad to say they were the majority, that satisfied the eye and showed the Chrysanthemum as a

A WONDERFUL FIVE-INCH POTFUL—BLANCHE POITEVINE.

decorative flower. Even the immense blooms that many term "mop-headed atrocities" have their value in the scheme of decoration, and the immense blooms of Victory, Mrs. G. Drabble, Princess Mary, Mrs. R. C. Pulling and many others, would be admirable and quite fitting in a large vase in the entrance hall or for some special occasion, but for everyday use one would probably prefer those of more moderate size, particularly if they were single. This type was, indeed, the real feature of the show, and it was a difficult matter to find a poor vase among the very many on view. The twelve that won the Monro Challenge Cup for Mr. Woolman were ideal examples of their type. Often the petals of these large singles lack substance and, when the bloom should be at its best, flop down, giving the flowers an unhappy appearance; but these champion large singles, and indeed most of the others, were so well grown that the petals stood out in perfect circles. Of Mr. Woolman's twelve varieties we fancied the very best were Mavis, Sweet Auburn, Mrs. W. J. Godfrey, Flossie, Lizzie Robertson and Edith Dimond.

The "display of singles" was not so effective as would be expected with such good material with which to work. The vases were too crowded and required foliage to relieve the array of blooms. Nearly all the decorative exhibits were disappointing artistically. The flowers were fresh and good, and the autumn foliage and greenery were also all that could be desired, but in most cases the arrangements were "heavy-handed." The two dinner-tables were decidedly overcrowded, and in the first prize table there was too much foliage in relation to the flowers, while the other had far too many flowers. Similar conditions prevailed in the decorated baskets of Chrysanthemums, but several of the vases were graceful and attractive.

Incurved Chrysanthemums have lost favour with exhibitors, and there was only one exhibitor in all three classes, but Mr. Hudd showed splendid examples of the grower's skill and art in dressing. The dainty little Pompons also seemed to be rather neglected and, it must be admitted, the few that were to be seen were of only moderate quality. The best Pompons were in the great exhibit of Messrs. Keith Luxford, who had a vase of mixed sorts charmingly displayed. The association of Golden West and the old-rose coloured Baby Felton was admirable. From the fancier's point of view the best Pompon shown was Katie Manning.

The newest type of Chrysanthemum is the Anemone-centred single, and many of these are very pretty and quite decorative. They differ from the Anemone Chrysanthemum of years gone by, which were solid, lumpy flowers. These newer and more graceful varieties have smaller centres. Aphrodite, Ceres and the new Mabel Weston are excellent examples of this type.

THE GRACEFUL ANEMONE-FLOWERED SINGLE—MABEL WESTON.

NEW CHRYSANTHEMUMS.

Hon. Mrs. Dalgety.—A most gorgeous ruby-crimson Japanese variety of large size. The petals are broad and recurving, and there is a fascinating light maroon shading. First-class certificate to Mr. W. Baxter.

Major Dalgety.—This is of similar rich colouring to the above, but not quite so deep in tone, and the petals are a trifle longer and narrower. Card of commendation to Mr. W. Baxter.

Miss Verena Chichester.—A very large Japanese bloom, nearly round in shape. The long petals are narrow and of milk white colour, which is relieved by a slight blush tinge in the centre of the blooms. First-class certificate to Mr. W. Hall.

Mrs. Charles Chichester.—An immense light amaranth exhibition bloom with a silvery reverse. The broad petals are very long and curl upwards at the tips. First-class certificate to Mr. W. Hall.

Elvira.—This is a very valuable flower of good decorative size and snow white colour. First-class certificate to Messrs. Cragg, Harrison and Cragg.

Mabel Weston.—Delicately graceful sprays of this new Anemone-centred single were shown. The small, round flowers are of snow white colour and the small centre florets are lemon coloured. First-class certificate to Messrs. Cragg, Harrison and Cragg.

Mary Pickford.—A new Pompon which may be well worth growing, but it was shown in poor condition, due, we believe, to the sprays having been opened out of doors. The well formed flowers were of greenish white colour. Shown by Messrs. Luxford and Co.

H. V. West.—A large, rich yellow exhibiti bloom having long, broad, slightly twisted flore First-class certificate to Messrs. Luxford and Co

Pamela.—A medium-sized flower which wou be valuable for decorative purposes. It is bronzy chestnut colour tipped with yellow. Fir class certificate to Messrs. Luxford and Co

Mrs. Frederick Fairs.—A compact primro yellow sport from General Petain. First-cla certificate to Mr. Norman Davis.

Alpha.—A good yellow exhibition variety F. S. Vallis type, but rather shorter petals. Ca of commendation to Mr. T. Clark.

Blanche Poitevine.—A splendid dwarf whi variety of great value for growing in small po and for cut blooms. The plant set before th Committee was growing in a 5in. pot. It measure 18ins. high, was 16ins. across, and bore ten reall good blooms. First-class certificate to Mr. Milto Hutchings.

"HEARTS OF OAK"

It is a curious fact that a trying season, such a the abnormal summer, is required to bring hom to many of us natural beauties which are alway with us. Consider trees, for instance. While a our man-made, and in most cases admittedl beautiful, flower beds and borders were languishin or in actual distress, trees for the most part wen quietly on ignoring the abnormal weather.

Even in normal seasons there is more real lasting and varied beauty in fine trees than i any other feature of our gardens. Their beauty is not of one season, but of the whole year. Th deciduous tree gives the most clear-cut yet varyin impressions—the tender beauty of spring, wit its promise of greater glory; the opulence o summer; the grandeur of rich autumn tints and last, but by no means least, the real beauty of bare trunk and bough, the wonderful structur displayed, from rugged strength to airy lightness

What picture in the garden in November o December can compare with a clump of Alde and Red Birch undergrowth, overtopped by rugged Oak and shining Ash, the setting sun slanting through and making a purple picture of their stems and buds? What, in such a gloriously natural Sussex garden as Buckhurst Park, can grip the imagination as does the magnificent Beech, with its massive yet symmetrical proportions, the æsthetic colouring and charming proportions of trunk and bough and twig?

Living on the edge of Epping Forest, one realises the value of trees in any season, but especially such an one as the present. London is indeed fortunate in the possession of such a paradise so near at hand, and it is good to find it appreciated. The trees are not great individually, most of them showing signs of rude treatment meted out to them in the old days of lopping rights, happily now past; but collectively, Oak, Beech, Hornbeam and Silver Birch form a charming *ensemble*. It is rather sad to see a certain amount of felling done yearly—scientific thinning they call it!—and no replanting. Certain it is that the present system, continued, will eventually make Epping Forest an open space in the strict sense of the word!

Evergreen trees, while not giving such clear-cut impressions of the seasons, have a calm, if sometimes sombre, beauty of their own. What of the cathedral-like atmosphere of a Pine wood? or of the thoughts conjured up in the serene presence of a Bishop Ken Yew? Not all the beautiful trees now in full maturity are accidents of nature; many were planted by nature-lovers as a duty owing to posterity, a sense of obligation which appears to have been lost.

G. B.

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

I AM ready to back up my friend, Mr. Guy L. Wilson, and others who are asking that the well established Midland Daffodil Society may be re-christened as the National Daffodil Society. All growers of this queen of spring flowers must admit that she is as worthy of a national society as any flower that is grown. If it meant the forming of a new society I would be dead against it, but as we already have a very good nucleus in the M.D.S. for the development of a N.D.S. there seems no reason why steps should not be taken to change the name and widen the scope of the good old M.D.S. which has done such fine work in the past. Hands up for a National Daffodil Society!—J. DUNCAN-PEARSON.

BRITISH BULBS.

LAST year, about this time, the Secretary of the R.H.S. wrote and asked me if I would support an exhibition of home grown bulbs if arranged by the Society. I replied that I would do my best. A little later I saw in your columns an advertisement of what I understood to be Scotch bulbs, and arguing that Scotch seed potatoes always gave good results, why not Scotch bulbs? I sent an order for four varieties (two of them being King Alfred and Mme. de Graaff). The bulbs arrived and were planted in ground that had not been used for Daffodils for some years before the war; but when they began to bloom, imagine my surprise to see little else than Van Sion! In all four lots there was not a single bulb true to name. In such a case what is the value of "Guaranteed to give full satisfaction"?—G. C.

[Our correspondent's case is a striking illustration of the value of co-operation. If the firms which really do grow or market British bulbs would combine to acquaint the public with the fact, any unscrupulous outsiders who might try to gull the public with bulbs untrue to name (and very probably of foreign origin) would find their market gone, or, at any rate, the unwary purchaser would only have himself to blame. At present, of course, practices such as those described do untold harm to the British bulb industry. Will "G. C.," for our guidance, please send us the name of the offending firm?—ED.]

TREES FOR CHALK SOILS.

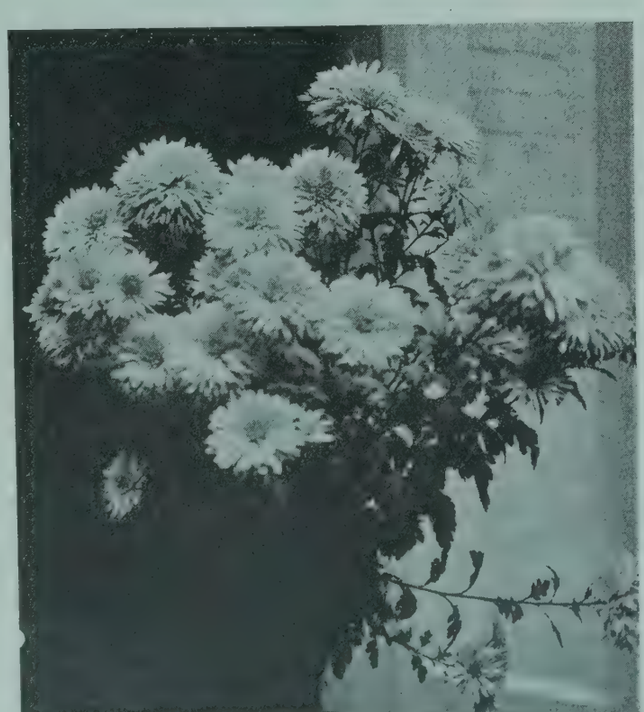
IN your "Answers to Correspondents" a few weeks ago *re* "Trees for Chalk Soils," I think I noticed you stated most hardy trees would grow with the exception of Conifers. I can assure you Cedrus Libani, atlantica and Deodara all grow here in almost rock chalk. I could show you trees of the former 80ft. to 90ft. high, with a girth up to 20ft., besides many others planted some thirty years ago and all flourishing. We have an avenue of sixty-four trees planted in 1881 on a pure chalk hillside, exposed to blazing sun and gales of wind, yet they are doing well and are now over 30ft. high; even this summer we have not lost one. Abies Pinsapo, although a limestone plant, does not do well here; we have a few good trees, but most of them only exist. The great secret in planting in chalk is to start the trees really well and make a good big hole; a little expense to begin with pays well in the end. I have had forty years' experience of some of the poorest chalk soil in England, and if your correspondent cares to write to me I should be pleased to tell him of our numerous failures and few successes.—HEATLEY NOBLE, *Temple Combe, Henley-on-Thames.*

THE MICHAELMAS DAISY.

MAY I offer a brief criticism of the Rev. J. Jacob's method of increasing this plant as affecting short-staffed practical gardeners? My objection to Mr. Jacob's system is that it would, if followed seriously, tend unnecessarily to coddle one of our hardiest plants; make more work, especially where many varieties have to be dealt with; and, if the plantlets are not put out before May (as mentioned in the article), very considerably shorten the springtime root action of the plant, thus hindering or delaying that early, healthy establishment so vital to hardy plants having to withstand the conditions of even an ordinary summer. Few gardens to-day are both adequately manned and plentifully supplied with water, and one wonders what would have been the lot, in the average garden, during last summer of Asters not planted before May. Mr. Jacob mentions putting rooted portions in pots in February or March; why not put such pieces where they are to grow in the outdoor garden rather than consign them to cold frames? However successful it has proved, the potting-up business is calculated to make more labour rather than lessen it—an evil all gardeners, with reduced staffs at any rate, will have to shun.—C. TURNER.

THE VALUE OF THE BUSH CHRYSANTHEMUM.

OF the two systems followed in the growing of Chrysanthemums, the large bloom method and the bush principle, the latter is undoubtedly the most useful. Saying this does not in the least decry the value and great skill necessary to produce the big flower; but there is a decorative value attaching to pots of bush Chrysanthemums which cannot be claimed for the big single-stemmed specimens, howsoever we otherwise prize them. Apart from this fact, or in addition to it, there is the wealth of cut flower available, a weighty consideration where such has to be produced in quantity. For this purpose I suppose a well grown bush plant would be worth three or four large flowered examples. The variety of which I send a photograph is Mrs. Wingfield—a sort recognised by the N.C.S. nearly twenty years ago. The colour is a delicate pale pink.—C. T.



CHRYSANTHEMUM MRS. WINGFIELD.

EARLY FLOWERING OF IRIS UNGUICULARIS.

I NOTICED, in THE GARDEN of October 29, one of your correspondents drawing attention to his Iris stylosa, which was in bloom on October 10, and asking if any of your readers had the same experience. On October 12 I had quite a dozen blooms, and yesterday, November 5, I counted over twenty on one clump! Mine are in a south border and I had been advised to move them, being told they would not bloom unless near a wall and in a confined space! I was thinking of lifting them when they burst forth in all their glory. I fear now there is no chance of their blooming in the early spring.—F. B. CHANNER, *Hants.*

THE DAFFODIL WATERSHED.

I DREW attention a few weeks back to the proper depth at which Tulip bulbs should be planted. Incidentally much the same depth suits Daffodil bulbs. Four inches of soil over the top of all but the very small species and varieties such as cyclamineus, nanus, triandrus, lobularis and, of course, minimus, is a safe rule. My present purpose is to state what, from my own experiments, I believe to be a fact, viz., that November 10 to November 17 is the time-watershed between comparative success and comparative failure in planting Daffodils. Just as "there is a tide in the affairs of men, which taken at the flood leads on to fortune," so it is with Daffodils. They should be planted with the incoming tide; and the tide turns somewhere between November 10 and November 17. When bulbs are planted after this date there is a marked difference in the height of their foliage and the size of their blooms. Hence if Mr. Late, who planted his Daffodils on December 1, wondered this spring how it was they were not so good as those of Mr. Early, who put his bulbs in on October 1, although they both had the same variety from the same dealer, he knows now. It is because it is "against the use of Nature." As a corollary it follows that a dealer must not be blamed either if his bulbs have been kept out of the ground and not planted till after the aforesaid date, or if, having bought our supply after then, the result is not all that we expected. It is the purchaser who is to blame and not the seller. It must not be thought from what I have said that late planting means death. No such thing. It only means that a plant has been seriously weakened by being kept out of the ground *too long*. This is the *raison d'être* for "bargains." Hence anyone who buys a bargain now does so at his own risk. He takes a sporting chance. If luck favours him with a decently dry soil for planting and a mild winter so that root-growth is possible all the time, things will not be so very bad; but in any case *I would advise the bulbs being left in the ground until another season to recuperate*. This is very important and should be widely known. Bulbs, like human beings, cannot burn the candle at both ends with impunity.—JOSEPH JACOB.

POTATO KERR'S PINK.

I GREW some Kerr's Pink this season. From one root there were lifted 18lb. of marketable tubers and about 1lb. of chats. The sets were planted 4ft. apart each way and there was no disease. I may say the crop was lifted and weighed by the County Horticultural Instructor.—R. S. COTTON.

SWEET PEAS FOR FRAGRANCE AND GARDEN DECORATION.

IN his interesting notes on certain Sweet Peas in THE GARDEN of September 17th, which reached me here (India) by the last English mail, the Rev. Joseph Jacob says he hopes he has "rescued Mother o' Pearl from an untimely end." When he mentioned this Pea early in the year I made enquiries in various directions to try and get the seeds, but without success. Could Mr. Jacob very kindly say where they are obtainable? I am sure there must be many others beside myself who would like to know where to get them. It seems a pity that some Sweet Pea expert does not take up scented Sweet Peas—crossing Mother o' Pearl with Norah Unwin and other finely scented Sweet Peas—and do for the scented Sweet Pea what Mr. James Douglas has done for the clove-scented Carnation. There must be tens of thousands who would gladly give a good price for the seeds of finely scented Sweet Peas, so that it should pay some of the raisers of the modern picture Peas to take up scented Sweet Peas as a side line. Another point brought out by Mr. Jacob in his notes is the greater effectiveness in the garden of the many short-stemmed side blooms on Sweet Peas during the autumn as compared with the fewer long-stemmed flowers earlier in the year. For every gardener who grows Sweet Peas for exhibition there must be hundreds who grow them simply for their garden beauty. Could not a few of the expert Sweet Pea raisers devote some attention to the production of a strain with the side blooming habit throughout the season, sacrificing if need be some of the exhibition points for greater floriferousness? There is room for garden Sweet Peas as well as exhibition varieties, and any raiser who gives his attention to this point ought to find his efforts well rewarded if the results are properly advertised. For Sweet Peas growing 4ft. or 5ft. high and blooming like a Schizanthus or Salvia splendens the demand would be limitless. It is true that one can make the exhibition Sweet Pea throw out many side stems by stopping, etc., but this is quite a different thing. Also it means later flowering, and the English summer is too short and human life not so long that one can afford to lose a week or two of beauty. It is true, again, that some growers and dealers list "decorative" Sweet Peas, but these are merely some of the older exhibition varieties that have proved good "doers," which again is quite a different thing. For cutting purposes one can always grow long-stemmed Peas separately. The artificial stimulation of exhibition Sweet Peas to produce extra large flowers in fours, etc., on very long stems is bound to have its effect in time—already there is the shadow of what is coming in "streak"—and an effort to produce a natural strain of garden Sweet Peas of robust constitution would be for the good of wholesome gardening generally. Abnormal growth does not necessarily mean a strong constitution; often it means the reverse.—R. K. K.

[There is undoubtedly a big opening for Sweet Peas of real garden value throughout the season. Even the older grandiflora varieties were not conspicuously successful as garden plants. If such new varieties were powerfully fragrant they would be additionally welcome. For cut flower, however, most people will consider even the newest Spencer varieties fragrant enough.—ED.]

AFTER MANY YEARS!

I WAS very interested in the illustration and description of Yucca Whipplei in your issue of September 10th, as we also have a plant in our garden blooming for the first time this year. It was first noticed coming into bloom on September 6th, and the enclosed photograph was taken of it on October 19th, when it was just in its prime, and, in spite of one or two sharp ground frosts, the bloom is still (November 6th) untouched. I presume it *is* Whipplei, but shall

YUCCA GLORIOSA? AT CATERHAM.

be very glad if you can verify this from the illustration enclosed.—B. M. RUTLEY, *Caterham*.

[Our correspondent's plant is assuredly not Yucca Whipplei. It is probably a form of Y. gloriosa, which is a very variable plant.—ED.]

A CHOICE AUTUMN-FLOWERING SHRUB.

CARYOPTERIS MASTACANTHUS has flowered with unusual freedom this season, probably owing to the brilliant weather experienced the last few months and the previous mild winter when frosts were not sufficiently sharp to injure the growth. It was originally introduced from China by Robert Fortune, but was lost to cultivation until re-discovered by Charles Maries about forty years ago. It is a shrubby plant, 2ft. to 3ft. high, the growths being clothed with coarsely toothed, oblong-shaped leaves 3ins. to 4ins. long, and more or less downy. The rich violet flowers are borne in compact clusters, and freely produced during the late summer and autumn months. C. Mastacanthus is a plant that may not prove hardy in every district, but here in Gloucestershire it thrives in almost any position, both on the rock garden and in the border. It does best in lig warm soils, where it obtains the full benefit of sun, and if grown under such conditions it wo be less liable to injury from frosts than if gro in the shade. Cuttings of non-flowering sho root readily during August if placed in sandy s and kept shaded for a few days in a cold frame.—

A UNIQUE ROSE.

AS the third week of October was nearing close I bethought me of taking a turn rou Dobbie's acres of Roses and Dahlias bef "Ichabod" should be written over them another season. Mr. Fife, with his usual urbani of manner, was piloting me through the confusi breadths of Roses, all still making a brave sho We were admiring both by nose and eye su gems as Golden Emblem and its companion, Crims Emblem, when we happened on a batch of Que Alexandra, which at once arrested my attenti and drew my fancy. "How does that take now? I queried. "Extra well," was the reply; "whe ever a lady sees it she must have it." And when the attraction? It lacks nearly all the chara teristics of a good Rose, according to present d standards. The blooms are certainly plentiful, b they are small, rather flat, inclined to be loos and borne on short, weak stems. "This may be true," replies her ladyship, "but there is undefinable charm about Queen Alexandra, wi her petals of richest carmine and old gold revers which sets her apart from other Roses and whi makes an appeal that is irresistible."—CALEDONI

WEEDS IN THE LAWN.

I NOTICED that one of your correspondent asked a week or two ago how to eradica Buttercup in a lawn and that you advocate lawn sand. This is effective, but if the area be dealt with is large it comes very expensive also, it can only be applied during a certain typ of weather. I wonder if he has ever tried Lysol I use it for this purpose (and for Daisy patches with very good effect, and it can be put on i any weather, except when actually raining. use the rough commercial sort in gallon drum (*i.e.*, not the refined) with about a like quantit of water, and just paint it on the foliage lightl with an ordinary small paint brush. The foliag will turn brown within twenty-four hours an disappear, and, if necessary, remaining bits whic have escaped the brush can be gone over later For Plantains or Dandelions I use a pointed bi of wood and put just one drop (not diluted) i the centre of each plant. In the case of Dandelion it is a good plan to cut off the head and put th Lysol direct on to the exposed end of the root The root then dies. Before the war Lysol was German product. It is now made by Lysol Limited, London.—R. G. BROOKE.

THE LOQUAT.

I AM sending you a couple of sprays of the Loquat which have been grown in the open on the west side of Lydney Park House. At the present date it is white with blossom and looks glorious in the sunlight. Its height is about 15ft., and it is quite robust. I thought it might be interesting to intending planters who are anxious to know just what to plant of special interest.—W. N. MILES, *Lydney, Glos.*

[The Loquat (Eriobotrya japonica) succeeds in Britain only in warm and sheltered localities. Even there it should have the protection of a wall. The sprays sent bore out our correspondent's statement as to the vigour of the tree, but they were too limp and damaged on arrival to photograph satisfactorily.—ED.]

HE TRUE ERICA AUSTRALIS.

W that the planting season is here lovers of Heaths who are including the above in lists should insist on getting the right thing. rtunately, various forms of E. Mediterranea enerally passed off as E. Australis, but the is quite distinct and, once seen, could never onfused with any other. E. Australis is a e of Spain and Portugal. It flowers in spring he blossoms, instead of being produced at the xils, as in E. Mediterranea, appear in terminal ers (generally four or eight in a cluster) are pitcher-shaped, fragrant and about ½in.

In brightness of colour they have no rival, vivid rosy carmine being well set off by the s-green foliage. E. Australis attains a height ft. to 4ft., or rather more in mild localities. not perfectly hardy, but does well here along E. ciliaris, the Daboecias and other Heaths. T. Johnson, *North Wales.*

OBITUARY

MR. E. H. JENKINS.

passing away of Mr. E. H. Jenkins on the of this month removes at once one of the t familiar figures at the Tuesday shows of the I.S. and one of the best known of modern ticultural writers. I last saw him at Vincent are in March, when we greeted each other the old familiar way and when to all outward pearance he was his same old self with his long, ving white beard and his rosy cheeks, busy a bee taking notes. The next day I was told was soon about to undergo a very serious eration in a London hospital. He lived to urn home, and I had hopes he would still be le to do some writing, which occupation I nk he keenly enjoyed. Such was his pluck at even before he left the hospital he was at rk again, and only one of these last weeks I ad a most interesting article from his pen in e *Gardeners' Chronicle* on the early forcing of lbs. He might almost be called a specialist this department of horticulture, and he has ld me how when he was employed by Messrs. llins, Brother and Gabriel (I think this is the rrect name of the firm) he was the first to grow ad show at the R.H.S. Shows early forced affodils. His knowledge of rock plants was very ide and wonderfully accurate, and we are rtunate still to have with us his written voice, I may so express it, in two excellent books, The Hardy Flower Book" and "The Rock arden." They deal with subjects with which Old Jenkins" (to write of him as we talked of im, because, I imagine, of his venerable appearnce) was exceedingly familiar; and just because f this, it will be a long time before they are out f date.

He must have had a wide circle of friends and cquaintances, all of whom will, I am sure, feel hat there is something missing at the shows when they get in their stride again next year nd there is no Jenkins. A well known and ighly respected personality has gone from us. He was an institution—*Hinc illæ lachrymæ.* J. J.

MISS PHILBRICK.

It is with deep regret that we have to record the death of Miss H. C. Philbrick, which took place at The Cedars, Halstead. Miss Philbrick was a very old correspondent of The Garden, and a short note from her pen appeared but a few weeks ago. A daughter of the late Mr. F. B. Philbrick, Town Clerk of Colchester, Miss Philbrick, though she had reached an advanced age, was to the last an enthusiastic gardener.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Spanish Irises are excellent for planting among late-flowering subjects in large beds or on borders, giving glorious patches of colour for their later brethren with which they are associated to continue. The planting of these Irises should now be completed as early as possible. They are not a bit fastidious as to soil.

Verbena Venosa is wintered much more successfully if taken up and placed in boxes of sandy soil and given the protection of a cold frame for the winter months. Where plants are left out to withstand the winter the roots should be well covered with leaf-soil or cocoanut fibre. This has been one of the successful plants during this memorable summer.

Falling Leaves.—In the rougher portions of the grounds it is unnecessary constantly to waste labour gathering the leaves together. So long as they do not lie about long enough to injure the grass, little harm can accrue from them in any part of the grounds. Where large quantities have accumulated among such plants as Rhododendrons and other shrubs do not clear them away, but take steps to prevent them blowing about by throwing some old refuse soil over them. A good mulch is thus provided for winter, and some valuable material kept on the ground ready to dig in during the early spring months. Oak and Beech leaves are the two best for nearly all gardening requirements.

The Kitchen Garden.

Seakale responds more readily to forcing if the roots are lifted a few days before introducing them into the Mushroom-house or wherever they are to be grown. The roots may either be planted out or placed in deep boxes or large pots. Hard forcing is not necessary, but all light should be excluded. Side rootlets should be broken off and saved for next season's planting.

Rhubarb, like Seakale, is also better lifted and left for several days upon the ground before placing it in its forcing quarters. This may be the Mushroom-house, pit, cellar, or any such place where a temperature of about 50° is possible. After placing the roots in position throw some old leaf-soil around them and give a good watering. No further attention is required, only an occasional watering and care taken to keep the roots in darkness.

Late Cauliflowers and early Broccoli with formed and forming hearts must be given protection. This may be done in several ways according to the means at disposal. The whole lot may be lifted and placed in deep pits, or failing such it may be possible to give a warm border up to them, placing them carefully in deep trenches and afterwards loosely drawing the leaves together over the flowers. Additional mats or other covering should be given if necessary. Where it is impossible to remove the plants at all a few stout supports driven in the ground to which could be secured some rot-proof covering would help to save a great portion of them, especially if on approach of a very cold night some dry bracken was strewn lightly over the heads of the plants.

General Work.—Frost having now spoiled Runners, Peas and Marrows, they should be cleared from the ground and all bine burnt. Marrows which had remained and ripened on the plants should be taken into a fairly dry store and suspended until required. If not used for preserving purposes, they may be drawn upon as a change vegetable during the next few months. and will prove most useful in augmenting the kitchen list.

The Hardy Fruit Garden.

Planting.—Lose no time as the various trees come to hand of getting this operation carried out if the soil is in a satisfactory condition, for there is no doubt of the value of early planting so as to enable the plants to get re-established before bad weather sets in. Assuming all ground preparations to have been executed in readiness and the positions assigned for each tree, a couple of intelligent men will soon get a lot of planting accomplished. In selecting sites in the open the warmest and most favoured position should be given to dessert fruits of Cherries, Pears and Apples if such can be arranged. The former will thrive in a light soil, while the latter two appreciate a stronger loam. Some old mortar rubble is helpful to incorporate with the soil for stone fruits, while burnt refuse may be mixed with the compost for any of the trees.

Plants Under Glass.

Lapageria Plants.—The present is an excellent time to attend to the wants of this beautiful climber, such as top-dressing, potting on, or planting out. In assigning a position for permanent planting select the coldest aspect in a cool house. A good rooting medium may consist of peat, fibrous loam, a little leaf-soil, with sufficient broken charcoal and coarse silver sand to give porosity, and care should be taken to see that the drainage is good. In the most favoured localities down South and in Wales the Lapageria will thrive outside on a warm wall provided it is given winter protection.

H. Turner.
(Gardener to the Duke of Northumberland.
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Forcing Asparagus.—To obtain a dish of this delectable vegetable early in the New Year a number of the strongest roots may be lifted from the older beds and placed in the warmest corner of a forcing pit. Pack the roots closely and firmly in the bed, working in plenty of old potting soil and covering the crowns to a depth of 4ins. Give a thorough watering with tepid water and maintain a temperature of from 60° to 65°. Failing a home supply, strong roots suitable for forcing are obtainable from most nurserymen.

Seakale.—A batch of the strongest and best ripened crowns may now be placed in suitable quarters and forced quickly. An even temperature is essential, otherwise the growths are inclined to be stringy and lacking in crispness. Deep boxes are eminently suitable for planting the crowns in, as light is then easily excluded.

Cabbages.—Make good any blanks in the autumn planting. Slugs are particularly troublesome during open weather, but repeated dustings with soot will appreciably lessen their numbers.

Spinach.—Remove all decayed leaves from the autumn-sown Spinach and continue to keep the soil between the rows loosened with the hoe. Pick the leaves from overgrown plants and so encourage a more sturdy growth which will stand the severe weather more readily than if over-luxuriant.

The Hardy Fruit Garden.

American Blight on Apple Trees.—Trees should be examined periodically for this pest, and on its appearance steps should be taken to have it eradicated. Fir Tree Oil Insecticide has proved to be an excellent remedy, while Gishurst Compound in the proportion of 8oz. to a gallon of water with just enough clay added to make it adhesive is an approved winter paint for badly infested fruit trees. Care should be taken to work the dressing into every part where the insects are likely to breed, and into all cracks or protuberances in the bark caused by the pest. Keep a sharp look-out next season, and should any stray insects appear, destroy at once by brushing them with methylated spirit.

Plants Under Glass.

Cinerarias.—Early sown plants are now showing flower, so should be encouraged by discreet waterings of soot water varied at times with Clay's Fertiliser. Antique Rose is an attractive variety for early work.

Primulas.—Chenies Hybrids and gigantea are throwing up flower-spikes more freely now and add a cheerful touch of variety to the conservatory. They require rather drier surroundings during the flowering period than were maintained during their season of growth. The plants themselves should be kept on the dry side during the dullest part of the winter.

Arum Lilies.—Place a few of the most forward Arums into warmth if they are wanted for Christmas, as they form a pleasing change for decoration at that time. Spray the plants regularly with tepid water and see that aphis is kept in check.

Tuberous Begonias are now past their best, so should be placed in a cool pit until the tops die down, when they may be accommodated for the winter in any dry frost-proof shed

The Flower Garden.

Gladioli.—Lift these and tie in bunches in their several varieties, allowing them to hang for a period in an airy loft, where they will be free from frost. When thoroughly dried they may be taken down and after trimming and cleaning should be placed in bags until the spring.

Montbretias.—In districts where the less hardy Montbretias incline to die out during severe winters they should be lifted and treated in like manner to that advised for Gladioli.

Transplanting Shrubs.—Opportunity should now be taken to transplant any shrubs that may have been marked with a view to removal to other quarters, as with few exceptions the denizens of the shrubbery will be found to transplant successfully any time from now on till the middle of March provided the work is carried out in suitable weather. Should the planting of new shrubberies be contemplated, consideration should be given to the many fine trees and shrubs which are not only beautiful at their period of flowering but are also effective for autumn colouring. Readers of THE GARDEN must have been impressed by the delightful and most helpful article on "Autumn Effects in the Garden" which appeared in the issue of October 8th. I would advise prospective planters of woodlands and shrubberies to give the article mentioned yet another perusal, and if the valuable hints given are carried out, the groundwork of many pleasurable vistas may now be laid.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

TRENCHING AS EXERCISE

The normal human body demands exercise to keep it fit. For this, nothing is better than digging in autumn. The fresh air, the taste-smell of the newly turned earth and the muscular exertion are excellent. There is another reward—more and better food from the garden.

THOSE who dwell in the dry belt of England have had a grievous gardening experience this year and have been driven well nigh to despair. They laid down good foundations last autumn and spring; they strove industriously against early adverse conditions; they maintained their endeavours throughout the sowing and planting period; they watered (when water could be got), mulched and hoed; and watered, mulched and hoed again, and yet again, and finally they were forced to acknowledge general defeat, the first that many of them had suffered in two or three score years of gardening work. They could not be blamed for this. Nature in an unkindly mood was in opposition and won a strenuously fought fight. Recovery this year was impossible, but recovery, with handsome rewards, will come next season to those who go to the golden soil with the old determination, not weakened but strengthened, to wrest from it its many varied life and health supporting fruits. The hour for work has struck; let us proceed.

All the vegetable and flower growers of England know that the most valuable aid to success lies in deep, friable soil with a proper proportion of available food and not in heavy dressings of manure in a shallow medium. It is of no moment whether the roots of a crop spread laterally just beneath the surface or whether they are driven 2ft. or 3ft. down; deep cultivation, which spells warmer soil and a more equable water content, must be the primary consideration. How it can and will be ensured is a point that must be, necessarily, a matter largely for individual decision reached from personal knowledge, but there are broad principles which are entitled to close consideration.

Mechanical cultivation may be divided into three heads—digging, bastard trenching and trenching—and these have been interpreted to mean respectively poverty, progress and prosperity, but each of these meanings demands some qualification, and since trenching has been held to equal the prosperity to which we all aspire to attain it may be dealt with first.

Does one leap immediately to prosperity when one trenches one's soil? The question has been asked and answered with seasonal regularity times without number, but a decision has not yet been reached which has received national acceptance. Headed by the pre-eminent Mr. Edwin Beckett, there is a cult of trenchers, while against it is arrayed a numerically vastly bigger cult of bastard trenchers which has no such renowned leader. These latter grow into trenchers, but they hesitate, and it were a bold man indeed who would affirm that they do so unwisely, to take the great leap.

The real crux of the matter lies in accurate knowledge of soil conditions. If it is known that there has been a free passage of water and air through surface and subsoils alike, trenching can be justified always, because there is sweetness below as well as above by aeration; if, on the other hand, there is no such knowledge, or it is known that the surface lies over an impenetrable pan, trenching could not be claimed to be justified as bringing immediate, undoubted advantage because it would involve putting down an aerated soil and bringing up an unaerated, sour, inert one.

The argument in favour of trenching is that exposure to the elements will result in sweetening and amelioration, but this is dependent substantially on the weather which follows. If the work is done at once, if a fair quantity of rain falls shortly afterwards, and if frost of sufficient severity to convert the water into ice comes promptly, disintegration will be quick and complete, and enough time will elapse between the original cultivation and the cropping to ensure aeration to a degree which will render the ground suitable for such plants as Brussels Sprouts or Potatoes. There are far too many "ifs" in the proposition, since it needs only one of them to wreck th scheme. Taking an average of seasons there should be no trouble, but the unfavourable one may come when trenching has been done and the preconceived plan of cropping may be upset with disastrous effect.

Bastard, false or mock trenching can be made to give the same depth of moved soil—it may be 2ft. or 3ft., but it entails no such disability as accompanies trenching, for the simple reason that the positions of the two strata are retained—the subsoil is still the subsoil, just as the surface soil is still the surface soil. Amelioration of the lower stratum by the action of water and air proceeds steadily, and it is a rare exception to find a medium so emphatically stubborn that it cannot be trenched within three or four years of thorough bastard trenching. Given a perfectly sweet lower spit, there can be no doubt that trenching is the finest form of soil working that can be adopted in a garden, but until the happy state of certainty has come, bastard trenching is preferable to trenching on all strong loams and clays.

There are, however, cases in which neither bastard trenching nor trenching can be done, and reliance must, perforce, be placed on digging. There are two methods of doing this work. The man who is digging his own garden for the benefi of his own crops and his own health will driv the tool down as deeply as possible to turn ove completely 10ins. or 12ins. of earth, whereas th really skilled piece-worker may give the sam visible impression of cultivated depth, though, a a fact, he may not have moved more than 5ins or 6ins. Time will demonstrate the deception but the man has then gone and, incidentally, h will be wise to stay away.

Whatever the system may be, go ahead on al except the light sands at once; let the cultivable depth be the utmost that can be secured, and leave the top rough and lumpy—in many instances ridging up will bring easily compensating benefits—to expose the greatest superficial area to the beneficent influences of the weather. Needless to say, any refuse vegetable matter at command which will increase the friability, especially o the lower spit, should be incorporated with a generous hand. W. H. LODGE.

A Little Known Fritillaria.—Among the many interesting little bulbous subjects for the rock garden Fritillaria pudica is excellent and very distinct. Unlike other varieties, in that all trace of the curious chequering is lost, pudica reaches a height of 8ins. with pendant golden bells. It flowers in April and is very fragrant. The small bulbs should be planted in September, choosing a semi-shaded spot, where they will be cool and moist during the growing season.

The Double Perennial Convolvulus.—The very name of Convolvulus is apt to discredit a plant to the ears of those who have possessed a garden infested with the Greater Bindweed, but any such prejudice is unfounded in the case of the lovely hardy Calystegia hederacea fl. pl. Though this extends below ground in the same way as its pestilent relative, it never runs unrestrained riot over everything. Even if it did, it is so extremely beautiful that it would be difficult to quarrel with it. As an arch, trellis or pillar covering it is simply superb and grows freely from short pieces of the root with a growing tip, planted in a sunny position in deep rich soil. Here it climbs to a height of 6ft. or 8ft., with slender, graceful stems and medium-sized leaves, from between the axils of which are freely produced lovely pink flowers as double as a Rose. A native of China, it has proved perfectly hardy in this country, though it may perish in winter if the soil is cold and waterlogged.

The Scarlet Oak.—For autumn effect few trees can equal and none can surpass the brilliancy of Quercus coccinea. It is well named the "Scarlet Oak," for in autumn the leaves assume an even brighter hue than that of the Virginian Creeper, and for weeks the tree is an object of considerable and conspicuous beauty. The Scarlet Oak, though quick growing, usually forms a tree of only moderate size. In the town or suburban garden it might with advantage displace many uninteresting specimens of Lime, Chestnut, Poplar and other coarse-growing trees which, through necessary mutilation, have been robbed of all pretension to natural grace or charm. This Oak is a native of North America, and is closely related to the Red Oak, Quercus rubra. Though it bears a resemblance to this tree, the Scarlet Oak is a considerably brighter tint in autumn. The leaves are large in size and during spring and summer are of a bright green shade. The brilliantly tinted autumnal foliage, as well as being very decorative in the garden, is also invaluable for cutting. Arranged in water in vases it will remain fresh for several weeks. At the fall of the year, when there are no flowering trees or shrubs the brightly coloured leaves are particularly welcome for filling large vases and receptacles.

THE GARDEN

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NOTES OF THE WEEK

[November 26, 1921.

THE REASON.

[*A man declared at Marylebone Police Court that he had not been in his back garden since* 1912.]

He never doffed his coat and bowler
To push with groans a creaking roller.
He never o'er the turf so green
Propelled his (neighbour's) new machine;
Or made a bonfire evil-smelling
That set the dogs for miles a-yelling.
He never told most awful lies
About his spuds of monstrous size;
And how his very smallest marrow
He scarce could shift without a barrow.
He never rose at break of day
And sternly murmured "Let us spray."
The reason why he was no Adam
Is surely plain, my dearest madam.
Within his garden ne'er he tarried,
Since, lucky man—*he wasn't married!*

J. Walker.

The Private Garden.—There are, it is to be hoped, still private gardens in the strictest meaning of the term—gardens in which the primary essential, at any rate, is to grow the very best possible produce for home consumption and garden and home decoration. This is not, in any way, to decry the owner whom hard times have driven to become more or less a market gardener, only to state simply that not every gardener is a market gardener, using that term in a comprehensive sense. There was a time when crops grown for market were extraordinarily heterogeneous in character, and when many varieties of fruits, flowers and vegetables consigned for sale were quite unfitted for the inevitable rough handling in transit. Varieties especially suitable for market were selected, however, and new ones raised, so that there has for some time been no lack of excellent sorts for the purpose. Of late, however, there has been a mistaken tendency to judge new varieties from a market standpoint and that only. Never was a graver mistake. The Royal Horticultural Society and the National Chrysanthemum Society—possibly the National Dahlia Society—have become obsessed with the idea. Soon, unless a halt is called, no product of the raiser's art will be considered worthy because of its quality; everything else will be subordinated to durability in transit.

Reductio ad absurdum.—The *Evening News* had recently a little note that fruit experts were now agreed that there was no necessity to cultivate more varieties of Apple than twelve (six dessert and six table), as per list given. The names are unimportant; suffice it to say that the list contained no early and no really late dessert Apple at all. No doubt, however, we could buy from overseas! Some of the sorts mentioned are by no means successful everywhere, *e.g.*, Blenheim and Cox's Orange Pippin; while many people would think it unnecessary for a small grower to have three dessert Apples of similar type which are in season at exactly the same period, though this, as every experienced gardener knows, is true of Cox's Orange, Allington and King of Pippins. Even as a selection of desirable market varieties the list was woefully incomplete. That, however, was what in effect it was. If an Apple does not appeal for market, it should, apparently, go out of cultivation. Because for the market grower cultivated, interplanted orchards are generally more profitable than those under grass the private grower should turn his beautiful and productive grass orchard into a wretched parody of a market garden.

THE SEASON HAS COME WHEN EVERY KIND OF FRUIT TREE MAY BE PLANTED.

Quality and Durability.—Because a fruit or a flower carries well does it follow that the fruit is juicy and well flavoured or the flowers graceful and decorative? On the contrary, it will usually be found that good travelling fruits are inferior in quality, and, perhaps, to a smaller extent, the same is true of flowers. Among Apples, Worcester Pearmain is a better traveller and a better keeper than Lady Sudeley, but has it as good a flavour? The essential for a market Grape is a tough skin, but does anyone really think a tough skin a desirable quality? The same thing applies exactly to Pears. With regard to Cherries it is only necessary to refer to Mr. Bunyard's excellent article on page 592. We all know the enormous vogue of that very indifferent Strawberry, Royal Sovereign, but why, because it happens to be a good market sort, those of us who can grow our own fruit should be supposed to be satisfied with its rather cold watery flavour passes comprehension. It is right, of course, that market sorts should be raised and, if found superior for the purpose, should receive award; but it is not right that "market" qualities should be considered the only desiderata.

Flowers, too!—Many of the most beautiful Dahlias and Chrysanthemums are quite unfitted for market, either because they are not sufficiently solid and substantial or because their petals are not firmly enough attached to withstand rough usage. Neither point matters "the shake of a button" to the man who uses them for their decorative effect at home. The Anemone-centred single Chrysanthemum, Mabel Weston, which was illustrated on page 582 in last week's issue, is a case in point. This variety has real beauty, either as a plant or for cut flower but its travelling capacity is worse than doubtful. Must we on that account deny it a place in our gardens? Shall we, very shortly, be expected to grow only such Sweet Peas as have proved safe travellers and good sellers? Pursue the idea a little further and many whole genera which grace our gardens to-day will have to be considered worthless, either because they will not travel or because they make no appeal as cut flower, which—as dear old Mr. Euclid would have phrased it—is absurd.

THE TWO PATHS.

Among the many original rockworks I have seen, those shown by the accompanying cuts deserve being handed down to future ages. They show some of the foolishness which "rock-works" display. The hideous wall-like arch in the Hammersmith gem was, no doubt, originally planted with rock-plants, &c., by somebody who imagined they would grow thereon. The horizontal strata beneath the bolder cliffs in the public garden example are well worthy of study. These

"Rockwork" in London public garden.

detestable examples will serve to show what childish and stupid notions of rock-gardens have up to the present time existed in gardens. If the purblind love of the picturesque is gratified by such abominations as these, how much pleasure may we not hope to

Rockwork in Villa at Hammersmith.

give when the true and simple way of making a rock-garden is generally adopted! The labour and the "genius" expended by the unfortunate persons in whose poetical brains such scenes as the preceding are conceived, and whose hands build them, would be precious if rightly directed. Are these "rockworks" suggestive of anything lovely in this world? Of all foolish things done in gardening that betray the trail of the serpent, this is the most foolish. A weary spinning away of the soul and emptying of the purse to produce something offensive to nature and man! With one cartload of stones a better effect could be produced in ten minutes than by all the

Single half-buried Stone surrounded by Alpine Plants.

rockworks of the above type yet created! Nay, with one stone as shown in the accompanying cut. Such a stone may be very appropriately seen peeping above the turf, near the lower flanks of the rock-garden, or where the ground is about to break into bolder rocks or strata. With a dozen stones, we succeed with our tiny rock-garden on the margin of a shrubbery.

The following illustration well explains our meaning: an irregularly-sloping border, with a few mossy bits of rock peeping from a swarming carpet of Sandworts, Mountain-pinks, Rock-cresses, Sedums and Saxifrages, Arabises and Aubrietias, with a little company of fern-fronds sheltered in the low fringe of shrub behind the mossy stones. This is a rock-garden which anybody could carry out, and which would offend nobody. As the first illustration is sketched in a botanic garden, it may be well to point out the exceeding impropriety of tolerating such scenes in a public garden even of the meanest sort! Granting that means were wanting for anything better, their presence is inexcusable. Absurdities of this kind should be removed! It were surely better to do nothing at all than thus to sow the seeds of vicious taste in the minds of visitors to our public gardens. In some of our public and private gardens want

Rock-garden on margin of shrubbery.

of means is given as an excuse for the presence of the hideous pock-marked-potato-pit-like masses of rockwork that disfigure them. The plan now recommended is as much less expensive than these, as it is less offensive!

WALL PLANTS.

Some plants, like the wall Linaria, the Wallflower, and Snapdragon, are so fond of old walls that we see them everywhere thereon, but there is generally no adequate notion of the great number of plants that will thrive on walls. I have no doubt whatever that at least 400 species of cultivated rock and alpine plants would thrive well on old walls and ruins if sown thereon. Nor must it be supposed that a moist district is necessary, for the Pansy shown in the accompanying cut grew on a very dry brick wall at Kew—the brick wall behind the narrow border for herbaceous plants. It sprung forth at a foot or so below a coping, which prevented it from getting much or any rain, and one would scarcely have expected a Pansy to have existed in such a position. It not only did so, but flowered well and continuously. No doubt the seed fell in the chink by chance. Those who possess old brick or other kinds of old walls would do well to sow on them the seeds of various rock and alpine plants, and also where there are mossy chinks, with a slight deposit of mould, to insert small plants in autumn. The silvery Saxifrages would do well planted thus, while they might also be sown with almost the certainty of success. Leaving out the few common wall plants mentioned at the beginning of this note, the following are among the most likely to succeed of plants easy to obtain:—*Corydalis lutea*, *Arabis arenosa*, and *A. petræa*, *Draba* in great variety, *Ionopsidium acaule*, *Reseda odorata*, *Gypsophila* in variety, *Tunica Saxifraga*, *Diunthus cæsius*, and *D. petræus*, *Lychnis alpina*, *Arenaria balearica* (moist sides of walls), *Sedum* in great variety, *Sempervivum* in great variety, *Saxifraga* in great variety, particularly the silvery or *Aizoon* section, *Bellium* in variety, *Campanula* small kinds in variety, *Erinus alpinus*. All the above may be sown in August or September, or in spring. This short list is confined to small plants. Among larger ones the common *Centranthus ruber* (Red Valerian) and its varieties do quite as well on old walls or ruins as the Wallflower, the Stock, or the Snapdragon; but these are not well fitted for association with the dwarf alpine plants, however attractive on high walls, old bridges, ruins, &c.

Pansy on dry brick wall.

W. R.

FIVE DECADES OF GARDENING

A retrospect tracing the evolution of horticultural tendencies and ideas since the founding of "The Garden" fifty years ago.

IT is well to pause sometimes to review the Past, notwithstanding numerous adages as to the advisability of keeping one's gaze directed forwards and upwards. History and geography, twin studies, are an essential art of the curriculum of any scholastic institution worthy the name. The knowledge and achievements of to-morrow are built upon the knowledge and achievements of yesterday.

With this issue is completed the half centenary of this journal, inasmuch as the first issue was dated November 25th, 1871. It is not inappropriate, therefore, to look back and consider what progress has been made in matters horticultural during five decades. The history of THE GARDEN is the story of a horticultural revolution. The objects with which the paper was founded are pretty clearly indicated in its first issue, though, strangely enough, nothing is specifically stated as to its aims, nor, save the numbering of the pages, is there anything to indicate that this was the first issue of a new periodical. The Shakespearean quotation, however, which for several years headed the first column of each issue—there was in those days no "Notes of the Week" page—undoubtedly epitomised Mr. Robinson's ideal of gardening:

"This is an art
Which does mend Nature; changes it rather: but
The Art is Nature."

The page now reproduced from that first issue elaborates the text in an article called "The Two Paths." The title was, no doubt, consciously or unconsciously, borrowed from Ruskin. It was a little unfortunate and dispiriting that while the "monstrosities" reproduced quite well in the woodcuts, the "Rock-garden on Margin of Shrubbery," which was intended as showing an example worthy of emulation, came out as little more than a shadowy blur!

The general level of taste has risen enormously since those days, and Mr. Robinson would be the last to claim that to his unaided efforts belongs the almost universal improvement which is to be noticed to-day in garden design. None the less, Mr. Robinson was undoubtedly at that time a voice crying almost in the wilderness, and crying with no uncertain voice at that! That voice has made itself heard not only through the columns of THE GARDEN, but in other directions, notably through his book, the "English Flower Garden," of which yet another edition is now on the point of publication. There can be no doubt, therefore, that to those early issues of THE GARDEN and to the energetic propaganda of its Editor must be attributed, at any rate, a not inconsiderable share of the progress which has been made in gardening outdoors. One still does see occasionally rockwork almost as monstrous and abominable as that illustrated as "'Rockwork' in London public garden," but it *is* occasionally, and to all intents and purposes that battle has been fought and won. It is interesting, however, if not gratifying, to read fifty years afterwards that they were even then endeavouring to combat the smoke poison which rendered (and renders) many of our great cities unsuitable for plant life and all but unendurable for human beings. This battle is by no means won. Victory at last, so it would seem, will come about more as a question of economical production than by any special endeavour on the part of those concerned to safeguard the life and health of the people.

An article by that great rosarian, the late Dean Hole, is in itself a reminder of the changes which have come with years. Then, as now, the Rose, we are plainly told, was the Queen of Flowers—we shall all agree that she is even more queenly to-day—but, he says, "We may and do differ as to the Belle of the Court; whether Lælia or Dipladenia, Allamanda or Ixora, Stephanotis or Eucharis, Erica or Hedaroma, Lily or Viola, be fairest of the fair ladies-in-waiting, but we have no dissension in whose hand to place the sceptre."

One need not be a keen gardener safely to affirm that no modern flower-lover would look among the plants mentioned further than to pick out the Lily if he were looking out the fairest "lady-in-waiting" for the Floral Queen. These stove and greenhouse plants were the little gods of yesteryear, but now their place is taken by the Narcissus and the Tulip, the Iris—most aptly named of flowers—the Dahlia and the Chrysanthemum, the Delphinium and the Campanula.

That first issue, by the way, is quite a mine of interest in one direction and another. On one page is given a list of rabbit-proof plants, though it is rather naively added that perhaps readers may have found some of the plants listed "anything but rabbit-proof." For what it is worth here it is: "Tritoma, Iris, Winter Aconite, Narcissus, Asphodelus albus, Solomon's Seal, Lily-of-the-Valley, Ornithogalum, Fuchsia, Columbine, Poppy, Honesty, Phlox, Periwinkle, Lilies (common orange and white sorts), Dog's-tooth Violet, Scilla, Woodruff, Monkshood, Muscari, Roses! Primroses, Arabis, Anemone coronaria and A. japonica, Aubrietia, Violets, Pansies, Canterbury Bells, Hollies, Mahonia, Yew, Laburnum, Lonicera, Elder, Privet, Symphoricarpus, Yucca, Berberis Darwinii, Syringa persica and S. vulgaris, Weigela, Deutzia, Ruscus, Lycium, Androsæmum, Hibiscus, Artemesia, Cineraria maritima, Stachys lanata and Euonymus."

There are those to-day who consider that a line drawing more truly represents a plant than a photograph. Possibly from a botanist's point of view they may be right, but from the standpoint of the general garden-loving public they are unquestionably wrong. That is, of course, taking them on the average. That there are good and bad drawings and good and bad photographs is beyond dispute. It is manifestly unfair to compare an especially bad half-tone print with an especially good result reproduced from a line drawing. In 1871, of course, and for more than twenty years afterwards, all reproductions in the press were engraved by hand either from drawings or photographs, and it is interesting to compare the results achieved with those so readily and so swiftly obtained to-day by the process block. Most of the early illustrations, accordingly, are quaint rather than beautiful, symbolical rather than accurate. The picture of the Bog Garden reproduced on this page is taken from the first issue, and might aptly be described as a "worm's eye view." On the other hand, the illustration of Bambusa (Arundinaria) falcata, also reproduced and taken from another issue in the same volume, gives a very true and impressive idea as to the habit and majesty of the plant.

THE BOG-GARDEN.

A FIFTY YEAR OLD CONCEPTION OF THE BOG-GARDEN.

On the title pages of 1900 and 1901 volumes the name of Miss Jekyll appears as joint editor. No one more fitted to carry on the traditions of the founder of the paper could possibly be thought of. So many of the grand gardeners of Victorian times have passed to that "bourn whence no traveller returns" that it is ma[illegible]

for congratulation that we still have Mr. William Robinson and Miss Jekyll with us.

Successive Editors of THE GARDEN have seen the gradual but almost total extinction of the florist's flower and of the flower fancier who cultivated and supported it. Even twenty-five years ago an onlooker's main impression of a Chrysanthemum show was of a huge number of "mops" and an almost equal number of "balls" exhibited in threes, sixes and twelves on boards. How different is a 'Mum show to-day! though even yet there is room for great improvement in the truly decorative classes. The incurved flower is at present out of favour, but it will surely come into its own again, for it is assuredly more truly elegant than the huge Japanese exhibition blooms. To picture the Chrysanthemums of fifty years ago one should study the little book on the Chrysanthemum written by the late Mr. E. Molyneux, in which George Glenny and Mrs. Rundle, both very pretty incurved sorts with blooms the size of a hen's egg, were included as standard varieties. Both sorts are, no doubt, still in cultivation. Not many years ago the writer had them both. Like that old hardy Pompon Anastasio, they will not be found in many dealers' lists. Speaking of Pompons reminds one that those were the days of the Cedo Nullis!

The Dahlia has undergone a similar evolution; but here, again, there is as yet no approach to finality. The floppy pæony-flowered varieties are enough, it is certain, to cause the old florists to turn in their graves!

The Daffodil and Primula shows, exceptionally, are still florists' functions—run by florists for florists—but they will have to undergo considerable modification before they will get much support from the general public. There are still classes for dressed Carnations and for Pansies in their big white collars, but they seem but anachronisms or survivals of an extinct civilisation.

It has been wisely said that when our minds cease to develop we are better dead. It is in no spirit of reproach, therefore, that we would point out how insensibly Mr. Robinson's view-point, for instance, has changed since first he published and edited THE GARDEN. Compared with his earlier opinions, Mr. Robinson stands out to-day almost as a formalist. His old-time objection to the paper plan he probably retains. Greatly abused such plans undoubtedly have been, but it is by their use and not their abuse, surely, that we should judge them. Mr. Robinson's own garden to-day, however, is a living contradiction to those ultra-naturalistic sentiments he expressed so many years ago.

Yet while our maturer views are more likely to see any subject whole, it must be owned that it is the ardent, if somewhat unbalanced, reformer who makes the biggest impression on that naturally inert mass which we call public opinion.

Papers, like people, tend to ripen with age, and if THE GARDEN to-day lacks something of the crusading fire which marked its earliest issue, perhaps it brings a sounder and more human judgment to bear upon the gardening troubles of to-day. It offers, at any rate, an impartial and unpurchasable opinion on matters of interest to the garden-lover.

THE MONEY TREE.

THAT even in 1871 there was such a thing as a sense of humour, though possibly of a more ponderous character than that to which we are to-day accustomed, is proved by the following paragraph:

"The speculation has sometimes crossed my mind, in that dreary interval of drought which intervenes between quarterly stipendiary showers, that Providence, by the creation of a Money Tree, might have simplified wonderfully the sometimes perplexing problem of human life. We read of bread trees, the butter for which lies churned in Irish bogs. Milk trees we are assured of in South America, and stout Sir John Hawkins testifies to water trees in the Canaries. Boot trees bear abundantly in Lynn and elsewhere; and I have seen in the entries of the wealthy, hat trees with a fair show of fruit. A family tree I once cultivated myself and found therefrom but a scanty yield, and that quite tasteless and innutritious. Of trees bearing men we are not without examples: as those in the park of Louis XI of France. . . . Not to multiply examples I will barely add to my list the Birch tree, in the smaller branches of which has been implanted so miraculous a virtue for communicating the Latin and Greek languages and which may well, therefore, be classed among the trees producing the necessaries of life—*venerabile donum fatalis virgæ*. That money trees existed in the golden age there want not prevalent reasons for believing. For does not the old proverb, when it asserts that money does not grow on *every* bush, imply *à fortiori* that there were certain bushes which did produce it? Again, there is another ancient saw to the effect that money is the *root* of all evil. From which two adages it may be safe to infer that the aforesaid species of tree first degenerated into a shrub, then absconded underground and, finally, in our iron age, vanished altogether.—J. R. LOWELL."

The iron age to which the writer refers seems now to have given place to the paper age. Something like the money tree has really come to pass with the advent of paper currency, but the result can hardly be described as satisfactory.

ARUNDINARIA FALCATA AS FIGURED IN VOLUME I.

"RECENT FLOWER GARDENING" FIFTY YEARS AGO.

The following is a quotation from a letter to the Editor:

Our old nursery song says:—
"Mary, Mary, quite contrary,
How does your garden grow?
With silver-bells, and cockle-shells,
And houseleeks all of a row."

May not this warning rhyme of our infancy go down to posterity with "Miss Muffet who sat on a tuffet," and was alarmed by a "spider who sat down beside her" (which shows the youthful mind how foolish it is to be afraid of harmless insects, and so "lose their curds and whey"); or, again, with "The Old Woman who lived in a shoe" (which in its moral is Malthusian)? Can we not, sir, extract a moral and preach a short sermon on this piece of wisdom of our ancestors? I think so. I think that a clever person might make a homily which would even reach Mr. Ayrton's heart, and although his name is most certainly not "Mary," he is decidedly "contrary" in many ways. The line referring to "houseleeks all of a row," obviously refers to a recent monstrosity in gardening to be seen to any extent in Hyde Park and elsewhere. There, for the first time, have I seen houseleeks, which in their natural grouping are like a beautiful irregular constellation of suns, put "all in a row" on mud, round flower-beds, without an inch wrong between them. This is "taming nature" with a vengeance. We must remember, however, that the great verse quoted at the head of this letter was composed more, probably, than one hundred years ago, when there *were* gardens—there are none now—and when houseleeks were not put in a row. Looking at it in that light we may say with the immorta Chiggle, as quoted by an American gentleman in "Martin Chuzzlewit," that "it was a pre-diction, cruel smart." We have not come to cockle-shells yet in our public gardens, but we must wait and hope; we shall not be long without them if we go on steadily developing in our present direction.

I most strenuously protest, sir, *in toto*, against this new ribbon-gardening as being utterly inartistic, utterly false to nature, and, three times out of four, utterly false in colour. Their arrangement is either empiric or traditional. As an example of the traditional method, look at the ordinary arrangement of scarlet geraniums and yellow calceolarias with an edging of blue lobelia. Is that beautiful? I, for my part, cannot undertake to say; but it is certainly fashionable.

THE GRASS ORCHARD

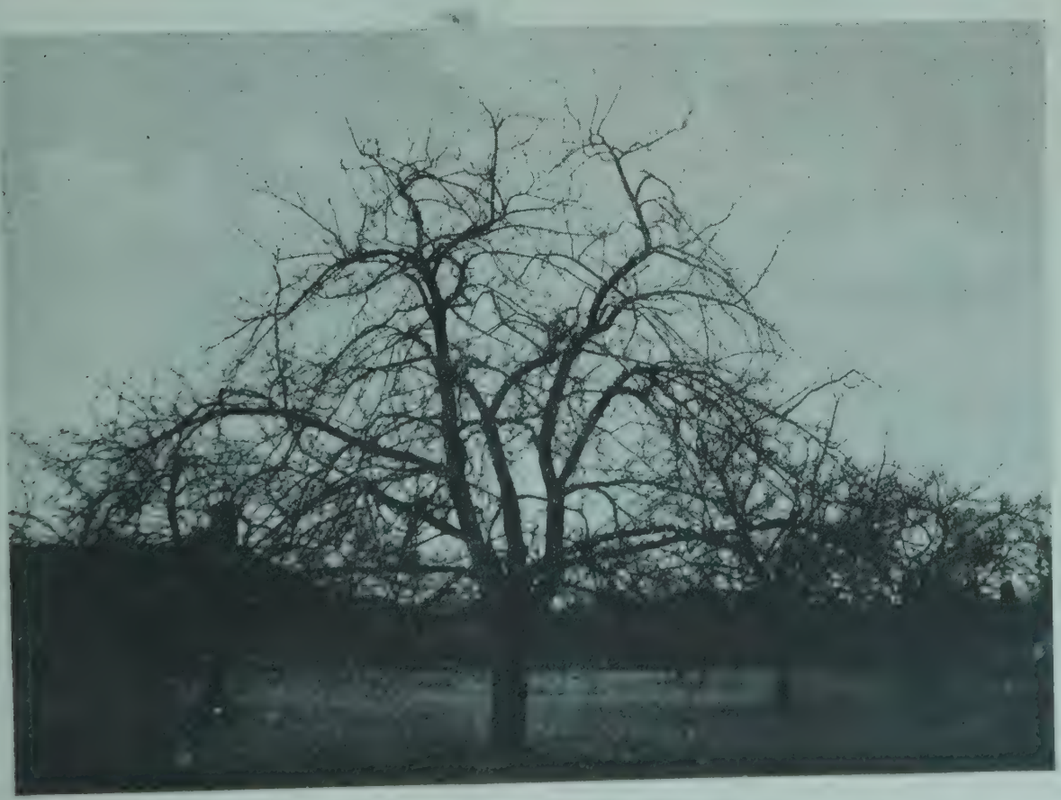
Its advantages and disadvantages. Precautions to be taken to secure the best results. Its place in the scheme of things entire.

THE advantages of the grass orchard for the private grower are numerous. It saves a great deal of labour, since there is no trouble with annual weeds. It is, at least, when well established, very picturesque. It may be used for the display of bulbs in spring or the keeping of poultry or, to some extent, for both. Where stock is kept the grass orchard is a very useful place into which to turn young calves or a mare and tiny foal or, if the tree stems be old or fenced with wire netting, ewes and lambs.

All trees for the grass orchard should be standards with at least a 6ft. leg. They must all be on the free stock and all vigorous growers. The orchard owner who is growing primarily for his own consumption will naturally want a number of varieties to mature over as long a season as possible. An orchard in which practically every tree is a different variety cannot, of course, have the uniformity of appearance which characterises the commercial orchard, where patches of Bramley's Seedling Apples or Victoria Plums, for instance, may extend for many acres. No matter how carefully young trees are staked and tied—and they should certainly have every care in this direction—it will be found when they approach maturity that the stems of Apple, Plums and Damsons are some degrees out of the perpendicular. Pears and Cherries, unless disturbed by wind, retain an erect habit of growth. When all is said, these divergences of habit make for beauty. Picturesqueness is the word which comes naturally to mind in this connexion, but word and character are, undoubtedly, out of favour. It is well to allow the stronger growing Apples, Pears and Cherries about 30ft. between the rows and 24ft. or 25ft. between the trees in the row; for the more upright and closer growing Apples, 25ft. between the rows and 20ft. or 22ft. between the trees will amply suffice, while for Plums 22ft. between rows and 18ft. to 20ft. between the trees in the row will prove satisfactory. Where intended as a screen to protect the remainder of the orchard from wind—a purpose for which their close growth renders them particularly suitable—Damsons may be spaced 14ft. or even 12ft. apart. If the orchard is to be of any size, even of no more than half an acre, it will be wise so to arrange it that a mowing machine can be introduced and worked. When the trees begin to form a canopy, it will be difficult to keep the finer sun-loving grasses alive. The coarser, lusher grasses, which will survive, will, of course, benefit by the feeding which by that time the trees will almost certainly require, so that heavy crops of rather coarse fodder may be anticipated. To cut this by hand is slow and arduous work, and the machine, if it can be worked, will be found very helpful. It is scarcely necessary to state that quiet horses and a skilful and careful driver must be employed, equally for the sake of the trees and the machine! If a one-horse machine is available, its shorter blade and more manageable proportions make it preferable, but the ordinary full-size machine will answer. In order to enable a machine to be used, a broad unplanted headland must be left at either end of the rows. As short turnings have to be managed, this should not be less than 12yds. wide; a few feet more will be beneficial.

Now as to the preparation necessary before planting. Supposing the land to be already under grass, holes 5ft. in diameter and 1½ft. to 2ft. deep should be taken out and the turves turned face down in the bottom, should be chopped sufficiently to make them solid. The holes should be refilled to within 9ins. to 1ft. of the surface, incorporating a gallon of ½in. bones in the soil in each hole. Time should now be allowed for settling if this can be managed. The trees, when they arrive should be so planted that they are buried to about the same depth as in the nursery, *but the soil around the tree trunk* will be an inch or two higher than the surrounding turf land. Much nonsense is

THE STANDARD APPLE ON GRASSLAND IS, WHEN MATURE, VERY BEAUTIFUL AT BLOSSOM TIME.



SHOWS THE ARRANGEMENT OF TREES IN GRASSLAND AND THE CULTIVATED RING AROUND THE BUTTS.

written in books as to the necessity for carefully spreading out the roots and such like. If the stake, which should previously have had the bottom 2ft. gas-tarred or creosoted, is driven in 2ins. or 3ins. from and to the eastward of the centre first of all, it will not damage the tree roots. The tree should now be placed in the hole and made solid under its crown at such a depth as will bring its collar in the right place when the hole is filled in. The trees should *not* be "pumped" up and down to make them solid as the "pumping" draws their roots into an unnatural downward pointing cluster. If the soil under the crown of the tree be made really solid and the finest soil available be saved for sprinkling among the roots, and the whole be trodden and rammed as solid as possible, all will be well. Should the soil be heavy and drainage indifferent, land drains must be laid with branches running to each hole. It is better not to prune the trees the first season, but to prune them heavily the following year, cutting off all blossom buds which have appeared on the young wood. The surface soil over the holes taken out should be kept free from weeds and turf for a period of eight or ten years, by which time the trees will have to great extent mastered the finer grasses and generally taken control.

Trees in grassland will, since they have to share with the turf, require well feeding once they really get bearing, but an occasional dressing of kainit and basic slag in winter will be all they require if sheep or poultry commonly have the run beneath them. Poultry are doubly useful since they destroy many noxious insects as well as fertilising the ground. Geese are not very suitable fowl for orchards, though often kept there, as they pull the rather open turf all to pieces without difficulty.

Of dessert Apples, King of tbe Pippins, James Grieve, Allington Pippin, Sturmer Pippin, Court of Wick, Worcester Pearmain and Cox's Orange Pippin in neighbourhoods where it succeeds, are suitable sorts which do not require too much room, while Cox's Pomona and The Queen, for instance, need space. It is useless to plant small growers such as Lady Sudeley, for instance, in grass. Good table Apples for this purpose are Bramley's Seedling, Newton Wonder, Wellington (Dummelow's Seedling), Annie Elizabeth—plant in a sheltered corner as the fruits have not much adhesion—Warner's King, Blenheim, Lord Derby, Lady Henniker, Ecklinville, Alfriston and New Northern Greening. Such varieties as Lord Suffield, Lord Grosvenor, Stirling Castle and Lane's Prince Albert are quite unsuitable. Good orchard Pears are Pitmaston Duchess and Catillac, but Bon Chrétien, though not a large grower, does quite well, as do most other hardy varieties. All Cherries, except the Morellos, are suitable and the same may be said of Plums, Damsons and Bullaces.

Such large-growing Plums as Jefferson, Transparent Gage, Monarch and Pond's Seedling should be kept together and be given more space than the others.

Trees on free stocks, which must be employed for the grass orchard do not fruit very soon, nor, if the foundation of a good orchard is to be laid, is it desirable that they should. Once they reach the productive stage, however, they continue in bearing for a long period. Windfalls which drop on to the turf are, naturally, less damaged and more usable (or saleable) than those which fall on the bare earth. The fruit from such orchard trees is smaller than that from trained trees and usually smaller than from "cultivated" standards or bushes. As a compensating feature it is, in general, excellently coloured and of good keeping quality, far better in both respects than that from bush trees. Many people, too, consider the flavour richer than from bush trees.

A grass orchard is, especially if the trees are kept clean, a pleasant place at most seasons of the year. It should, therefore, wherever possible, be so arranged that it may form a very definite part of the garden scheme, though if poultry or stock are to be kept in it, it must, of course, be apart from the main vistas and treated more or less as a "side-show."

A SEQUENCE OF DESSERT CHERRIES

To be suitable for growing for private consumption a Cherry need not be a good market variety. Indeed, it might truly be said that market sorts are not worth the private grower's attention.

THERE are but few gardens in which Cherries cannot be grown, but there are many where the value of this fruit is not fully appreciated. The average garden owner can often claim acquaintance with a good series of Apples or Pears in their several seasons, but when Cherries come up as a topic he seldom gets beyond an enumeration of some three or four varieties. This is to be regretted, as is any similar ignorance of the good things of life.

It is necessary to repeat for the ten thousandth time that fruits must not be judged by those varieties usually called "market varieties." For these the main and, indeed, often the only point is that they shall be firm enough to travel to market. Many of the best Cherries, however, are, when ripe, far too tender to survive the rude embraces of the porters, market or railway, through whose hands they must perforce pass from the producer to the consumer. Let us, therefore, who garden for ourselves woo with gentler hands those tender fruits which haunt not the market-place.

CHERRY GOVERNOR WOOD.

CHERRY FROGMORE BIGARREAU.

Both from drawings by Miss Frances Bunyard.

The Bigarreau Cherries were first named from the double colour which they possess, yellow or red; but the name has now in French come to mean any firm-fleshed Cherry, be it yellow, red or black. Those fruits with a tender flesh are called Guignes, and as we have the English word Gean, it would be well that this distinction should be adopted in this country, thereby evading many digestive disorders. This selection of Cherries is therefore mainly from this class.

The season will open in early June with Belle d'Orleans, a pale yellow transparent fruit with exceptionally long stems. The flesh is pale yellow, remarkably juicy and very deliciously flavoured. This variety is a little tender, and should be given a wall facing west or south if possible. It will, however, make a good pyramid tree.

Following this comes Early Rivers, a noble black fruit which attains a large size and is first class in quality. As a standard it makes a large tree, too large for most gardens, and it should, therefore, be placed in the orchard if grown in this form. As a pyramid it will grow well, but it must go its own sweet way, which is mainly downwards, as, like most Cherries, it has strong objections to the knife

To follow Early Rivers, I think, Waterloo is unchallenged. No sweeter or more tender Cherry exists—so far as I know—and though not a profuse cropper, it is worthy of being won by waiting. It makes a compact, round-headed standard not too large for a garden tree nor too lofty for the average ladder. In colour a deep reddish black, it excels on a wall.

Almost at the same season comes Governor Wood, an American introduction now approaching its centenary. This is a pale yellow transparent fruit. It is one of the most regular croppers known, and should be in every collection. Not a large tree, it falls willingly to garden uses.

At this time comes May Duke, a Cherry as well known as any, and quite one of the best of this group. A slight bitterness, very slight though it be, adds a zest to its sugar, to my taste; and its compact habit and obliging manner of spurring up its branches so as to make pruning almost unnecessary will recommend it to the gardener. As a pyramid it is excellent, and on a wall it grows and thrives. It does not disdain the chilly east or north, and thus provides a useful variant from the Morello.

In Frogmore we have a Bigarreau of firmer flesh than any so far named, but it comes within this list, as its offence is only a little one; in fact, in an orchard house it would be called a Guigne. A fine large yellow and red fruit, it has the reputation of being self-fertile, and should, therefore, be chosen where only one Cherry is grown. There may, of course, be others which have not been tested in this respect, but so far it is almost alone. Most of the other varieties named here are self-sterile and require a companion.

Having now come to mid-July, we reach a season where Guignes are scarce, and if the season is to be carried on, we are compelled to fall back upon the black Bigarreaux, and I should like to call attention to the variety Geant d'Hedelfingen, a remarkably fine fruit as yet too little known. It may best be visualised as a larger Black Tartarian, but its season at the end of July to mid-August makes it most valuable. Most of the Cherries of this season are of the harder Bigarreau class, but the variety under consideration is less firm in flesh than many of these and of most attractive flavour. It makes a vigorous tree and is best on a wall, as its vigour and weeping habit make it unsuitable for a garden tree. I find this variety grown in old orchards in Kent under various names, and as it originated in 1830 at Hedelfingen in Würtemburg, it has had plenty of time to be widely distributed. The flowers expand rather late in the year—generally a marked advantage.

All the above Cherries will do well on walls, and it is much better to tie in the side shoots when once the tree has been formed than to prune them. Symmetry of form should be sacrificed to fruitfulness, and if the young shoots are bent downwards they will cease to grow and become a mass of fruit-buds.

Failing a wall, pyramids under a netted enclosure would do, but the best way of all is to grow them in pots in a cool house. No better use can be made of an unheated house, and the flavour and texture of the fruit are marvellously improved, while the crop is more certain and birds are circumvented in the most humane manner. For potting up, young trees are preferable, and two-year pyramids are quite old enough. They will settle down to the pot much better than large specimens. Once established, they can be grown in pots for some fifty years. Nothing can be more charming than those large trees in fruit and in flower, and those who are turning heated houses into cold houses should consider whether they may be more profitably used than for the culture of Cherries.

E. A. BUNYARD.

THE ESPALIER APPLE

Where quality is the main consideration this form of training should be adopted. Espalier trees make effective screens, too, in the kitchen garden.

WE have only to visit our old kitchen gardens up and down the country to find out how partial our forefathers were to the growing of Apples on trees trained in this form. Hoary and aged exemplary specimens are to be found in many places. Bush Apple trees were also grown in those days, but not in so large a proportion over the espalier as they are now, although, no doubt, it was known then, as it is now, that the bush tree was more prolific in fruit bearing than is the espalier. How, then, are we to account for the preference given to the espalier in those days over the bush? It is, I think, because our ancestors were wiser in their generation than we are, preferring quality to quantity. In those days it was a question of growing Apples for home consumption only. Growing for sale was not thought of, hence the value attached to the point of quality.

A FOUR TIER ESPALIER APPLE TREE.

In this hurly-burly age of get rich quickly we have practically gone mad in search of bulk and weight to provide Apples in quantity for the masses. Whether in our efforts to do this we are wise in not trying to keep a tighter hold on our grip of quality, even in the growth of Apples for sale, is open to doubt. The public, I think, are more discriminating in this respect than growers seem to be. Of late one has frequently heard of nondescript Apples being hawked about our streets and sold at 8lb. for a shilling; whereas good samples were realising from 6d. to 9d per lb.! However, my appeal on behalf of the espalier form of tree in the growth of the Apple is directed more especially to that large community who grow their own Apples for their own consumption, valuing *quality* against all other considerations, rather than to the grower of Apples for market

Why is it, it may be asked, that the espalier form of tree generally produces Apples better in size and quality than does any other form of trained tree? I think there are several reasons.

In the first place, a better exposure to light, air and sunshine is secured to the trees and their fruit-bearing branches in summer, resulting in stronger and healthier blossoms and in a more virile progeny of young fruit. The same potent influence is continued to the growing and maturing fruit up to the time of its gathering. Another advantage this form of training possesses is that the roots of the trees have the free and unfettered use of the soil in which they are planted, no other trees as a rule being planted near them. Perhaps the greatest advantage of all the espalier has over others is that it is seldom penalised in the way of being compelled to carry too heavy crops. Whether this is due to the system of training adopted (horizontal) I am not prepared to say, but have an impression that it is so more or less. Of another cause inimical to the espalier carrying heavy crops I am quite satisfied. The culprit is the same large surface the tree offers to exposure to frost and cold winds in spring for the destruction of its blossoms as it offers in summer for the better development of its fruit. Instead of this being always a calamity, it often proves a blessing in disguise, for if frost, or some other agency, did not thin the blossom and fruit when overplentiful, I fear that gardeners would not do so adequately. We are all tarred with the same brush, being generally afraid to ease our fruit trees of their too heavy burdens, especially in seasons of plenty. We neglect this with our eyes open, well knowing that we are bringing about the weakening of our trees and a diminished crop, if not an entire failure the following year.

On this subject of the overcropping of fruit trees may I say this: It does not matter what the fruit may be one is growing—they may be Grapes, Peaches, Pears or Plums, for instance

if one wishes to destroy the flavour and quality of the fruit, *crop heavily*. It is sure to be effective.

The espalier tree has other advantages. The space of ground it occupies is exceedingly small. It is useful in a kitchen garden as a margin to garden walks when trained to a wire fence, planting at a distance of a yard from the walk, the intervening border being useful for the growth of bush Roses or other dwarf-growing flowering plants, being, of course, careful not to plant in front of the young trees or over their roots. A good distance to plant the trees is 12ft. apart.

ESPALIERS ARE EASILY ACCOMMODATED AND VERY "EYEABLE" IN A KITCHEN GARDEN.

Three year old trees are the best to plant. For dividing large quarters of the kitchen garden into smaller ones the espalier is both neat and profitable.

In planting espalier Apple trees care must be taken to select varieties which are known to be free growers as well as varieties of merit. If trees of slow or weak growth are planted, they will take an interminable time to fill up their allotted space and cause disappointment. Some varieties, none the less, are too coarse for this purpose. The following sorts may be relied upon:

For Dessert.—With fruits ripe July and August: Gladstone, Beauty of Bath and Duchess of Oldenburgh. To ripen in September and October: Lady Sudeley, St. Everard, James Grieve, Cox's Orange Pippin and Ellison's Orange. To ripen in October and November: Mother, Sir John Thornycroft, Rival, Allington Pippin and King of Tomkins County. To ripen in December and January: Blenheim Orange, Cox's Orange Pippin, Mrs. Phillimore, Claygate Pearmain The Houblon and Barnack Beauty. To ripen February to May: Lord Hindlip, Orleans Reinette, King's Acre Pippin and Brownlees Russet.

For Cooking.—To ripen in July, August and September: Early Victoria, Ecklinville and Lord Suffield. To ripen in October: Grenadier, Rev. W. Wilks, Peasgood's Nonsuch and Emperor Alexander. To ripen in November and December: Blenheim Orange, Lord Derby, Norfolk Beauty and Mère de Ménage. To ripen in January and February: Arthur Turner, Beauty of Kent, Lane's Prince Albert, Crawley Beauty, Edward the Seventh and Encore. To ripen from February to April: Newton Wonder, Bramley's Seedling, Wagener and Sanspareil. OWEN THOMAS, V.M.H.

IS PRUNING OVERDONE?

The meaning of pruning as opposed to shaping. How to prune, and why.

PRUNING is a detail of Apple and Pear culture which should be directed towards the assistance of Nature and towards bringing the young tree to, and maintaining it, as the years roll on, in that shape which encourages regular, heavy crops of clean, even, handsome fruits. To what end was pruning directed half a century or even a generation ago, and to what end is it directed to-day? The answer can be given briefly: Pruning was, and is, directed towards forcing the tree to come to and retain some specified regulation form. Is such a system of pruning in strict accordance with the correct meaning of the word? The second answer shall be as brief as the first. It is not; rather it is mutilation. All men are not built on identical lines, though they belong to the same genus; neither do birds of one family, nor animals of one family all conform rigidly to the family standard. Why, then, should the Apple tree because it is an Apple, or the Pear tree because it is a Pear, be cut by man's law to a form which is as accurate as if it had been turned out of a machine-made mould? A third brief answer: To demonstrate the skill (?) of the man who handles the knife.

Pruning is, and always must be, an integral part of fruit culture. No complete success can be gained unless the knife with, mayhap, the secateurs and saw on occasion, is called into action from time to time, but its use must be controlled by a brain that knows, and not by an eye which sees perfection of beauty in shape alone. Pruning should start in the year of planting; it should continue season by season in steadily modifying degree until the time comes when the edged tools come forth for the thinning (it cannot be called pruning) that is, and must always be, necessary for the admission of light to every branch, every leaf, yes, even to every bud.

There is no difficulty in finding an excuse for the system which has come to be accepted as an immutable law, or as an idol that must be worshipped. Years ago it was decreed, by whom history does not say, that the kitchen garden should be divided into two, four or more almost equal sections; that each of these should have a row of fruit trees—principally Apples and Pears, of course—on all its sides, 6ft. or 8ft. from the bisecting paths; and that thus view of the indispensable vegetable crops in the inner portions of the quarters should be judiciously obscured. Exactly as the trees were planted too near the paths so were they placed too closely together in the lines. The result was inevitable. To permit them to encroach on the path was obviously quite out of the realms of right; to permit them to encroach on the inner sides reduced the area and prejudiced the results with the vegetables; while to permit them to encroach on one another meant that burdens would be light and quality inferior. Either or all of these faults brought the same nerve-racking result—the more or less bridled wrath of the employer.

What could gardeners do when brought to such straits? They turned to the use of the knife. There was a definite amount of space available and it ran in straight lines. The trees were ten, twelve, fifteen or more years old; no matter, there was the space and there were the lines. The limitations of area were quickly found—there had to be at least a small gap between each pair of trees. Cut, cut hard, was the rule. Next came straightness of the paths—an overhanging branch would ruin the effect. Cut hard, cut harder, cut to any degree to ensure that there was not a twig, not a leaf out of square was the order. The alternative—to transplant half or two-thirds of the trees and move the remainder farther back from the paths (even at the expense of vegetable ground) must not be done, the employer withheld his permission.

Happily, things in these directions are not nearly as bad now as they were a score of years or even a decade ago. Employers look for the returns to be at least approaching remunerative and are not so keen on the observance of accurate angles or tidiness carried to excess. Gardeners have a little more latitude. Yet they still continue to prune too severely. The lessons impressed on the sensitive mind of youth are difficult to ignore, almost impossible to forget. Nevertheless, where they laid down rigid uniformity in the shapes of Apples and Pears they must be ignored; it were still better that they should be forgotten, in these days of strict utilitarianism.

If a rule can be made in relation to pruning it might run on the lines of severity in the early years until the desired foundation, with its widely disposed main branches, has been correctly formed, and, later, less and less severe to encourage the tree to develop in some unmistakable sense its natural habit of growth and cropping, and, finally, to that point where the grower does nothing beyond the imperative thinning out to which allusion has already been made. Those trees which come within the comprehensively named "trained" group must be pruned or pinched in summer and hard pruned in winter, but in the variable bush forms it is only those which are allowed reasonable natural freedom that will bring the most lucrative returns. Or, in other words, strict formality must go because it is bought at the cost of profit.

When all is said, to the eye of reason the profitably pruned tree is a more beautiful, because a more natural-looking, object than the clipped to shaped specimens to which we are accustomed. Apples and Pears are not suitable for topiary!

W. H. LODGE.

NOTES from the FOREST OF ARDEN

It is not necessary to live on the favoured sea-coasts to grow unusual plants. More shrubs, for instance, are hardy in the Midlands than many gardeners suppose.

THOUGH it is always a pleasure to read Sir Herbert Maxwell's "Notes from a Western Seaboard," many of us, who have to do our gardening in less congenial climes, cannot altogether divest our minds of envy when we consider his superior advantages. Having seen a great deal of the gardens of that part of Warwickshire which was once the ancient Forest of Arden, I have noted what I consider an unjustifiable conservatism on the part of planters. 'You do not grow so and so? No! I am told it is only hardy in the South," is the usual reply.

Now it seems to me that experiment is one of the chief joys of gardening. That is a personal opinion. Not everyone will agree with me. Be that as it may, my own experiences and experiments have shown that plants which will withstand our English winter outdoors in Kew Gardens will, under similar conditions to those there provided, stand outdoors in the Forest of Arden.

I should like to make it plain that "Forest of Arden" is used with no intent to capture the imagination by the "atmosphere" which clings to it. Gardener rather than journalist, I am but a "plain, blunt man," and I use the Arden Forest description because of old it embraced within its boundaries that considerable tract of land in Warwickshire which lies in the watershed of the Avon, which, of course, discharges its waters through the Severn and the Bristol Channel to the Western Sea. A large part of Warwickshire, including all the immediate suburbs of Birmingham, the woodland of Cannock Chase and the Park and Royal Borough of Sutton Coldfield lie within the watershed of the Tame, a tributary of the Trent, so that its surplus rainfall finds its way to the North Sea. The alteration in climatic conditions incidental to situation on either side of the watershed is remarkable, not to say unbelievable. A couple of miles of country will not seldom mean as many weeks' difference in the flowering of plants in spring. This is the more noteworthy because there is no range of hills to mark the parting of the waters, though in general the rounded, many-branched miniature hills which characterise the Avon side die away as the parting is approached. The nearer country on the Tame side is really a gently sloping plateau, broken here and there by villages.

This parting of the waters is, for practical purposes, a dividing line for vegetation. It really forms part of that larger, better recognised, division which runs in a moderately straight line from the Bristol Channel to the Wash, and which roughly delimits the northerly spread of the nightingale.

Many people prefer the bracing atmosphere of Sutton Coldfield to the milder one of Rowington or Henley-in-Arden, and even to the plant lover Sutton has its attractions; but a far greater range of plants may be cultivated outdoors in Arden. Ceanothus Gloire de Versailles and the more tender C. rigidus stand well outdoors around Rowington, especially on the hill tops; so does the Mexican Orange blossom (Choisya ternata). That beautiful climber, Solanum jasminoides, usually withstands several winters in a corner sheltered from the east, only ultimately to succumb to a sharp "snap" following a spell of wet. The great Californian Poppies (Romneyas Coulteri and trichocalyx) do well, but not so well as they do a few miles further north in a stiff clay soil. Ericas mediterranea and lusitanica succeed, and arborea grows rapidly, but soon gets badly broken and disfigured by snow. We not seldom get heavy snowfalls, and the soft, heavy snow which is usually our portion is much worse for vegetation than the light, powdery form which prevails further north. Snow often brings about the downfall of the larger Yuccas gloriosa and recurvifolia. The latter invariably dies back to ground level, instead of branching after flowering

HARDY OVER A LARGE PART OF ENGLAND, CEANOTHUS GLOIRE DE VERSAILLES IS WORTH A PLACE IN THE SMALLEST GARDEN.

A plant of Buddleia Colvillei which has been planted a number of years has never flowered. Olearia Haastii is hardy almost everywhere, but Gunniana, nummulariæfolia and macrodonta, supposedly not over hardy, have for long enough stood untouched. When some hard winter kills the Monkey Puzzle (Araucaria imbricata), we shall see!

The Cistuses are another story. C. laurifolius, C. ladaniferus and their hybrid C. cyprius stand all right, but little dependence can be placed on any of the yellow forms. Then, too, the mildest winter cuts C. salvifolius and anything approaching a sharp spell will kill every plant of it outright. A little colony on a steep stony bank of Opuntia Rafinesquii raised from seed ten or more years ago has flourished exceedingly; but, though it made wonderful growth this summer, there have so far been no flowers.

Many Bamboos come scatheless through the hardest winter here, but an extra cold spell always damages Arundinaria Simonsi, which appears not to ripen its growth overwell. A. japonica, A. Fortunei, in both its gold and silver forms, Bambusa palmata, and B. tesselata, B. nitida, B. Hindsii graminea, Phyllostachys aurea and the tiny carpeter Bambusa pumila are all very hardy and excellent. Fatsia japonica or Aralia Sieboldii, as the local gardeners call it, will just stand the winter outside here, but it does not flourish as it does in the south. It is not here worth growing outdoors.

The summer drought wrought considerable havoc in the Midlands, as elsewhere. If it has convinced the sceptical, as it certainly should have done, of the value of deep and thorough cultivation and early planting, it will not have been in vain.

We managed, I am thankful to say, to save all the Rhododendrons and our shrub losses are almost negligible, consisting principally o a few Retinosporas—plumosa and squarrosa—which overgrew a little during the war years and so are not much loss. They have already been replaced. No doubt these would have come through all right, but the good custom of digging over the shrubberies with a spade had been abandoned since the first year of the war, and, no doubt, they were dry in the ball even before the drought commenced.

The Dabœcias stood the drought excellently—unwatered, too—but a few Pernettyas, also neglected, threw up the sponge and the remainder were badly scorched. Never have I known Rosa rubrifolia to flower or fruit so freely. Good flowering of the Romneyas is, I should suppose from THE GARDEN a general experience and an understandable one.

The Rambler Roses were, for the most part, soon over, but it was very noticeable that plants of these in mixed shrubberies and in the wild garden lasted much longer than those under more orthodox conditions. Particularly good was the too seldom seen Garland. The hybrid Sweet Briars, too, did remarkably well.

The Teas and Hybrid Teas made less growth than usual and their summer crop was neither clean nor

lasting, but they made amends with the best autumn show we have had for years.

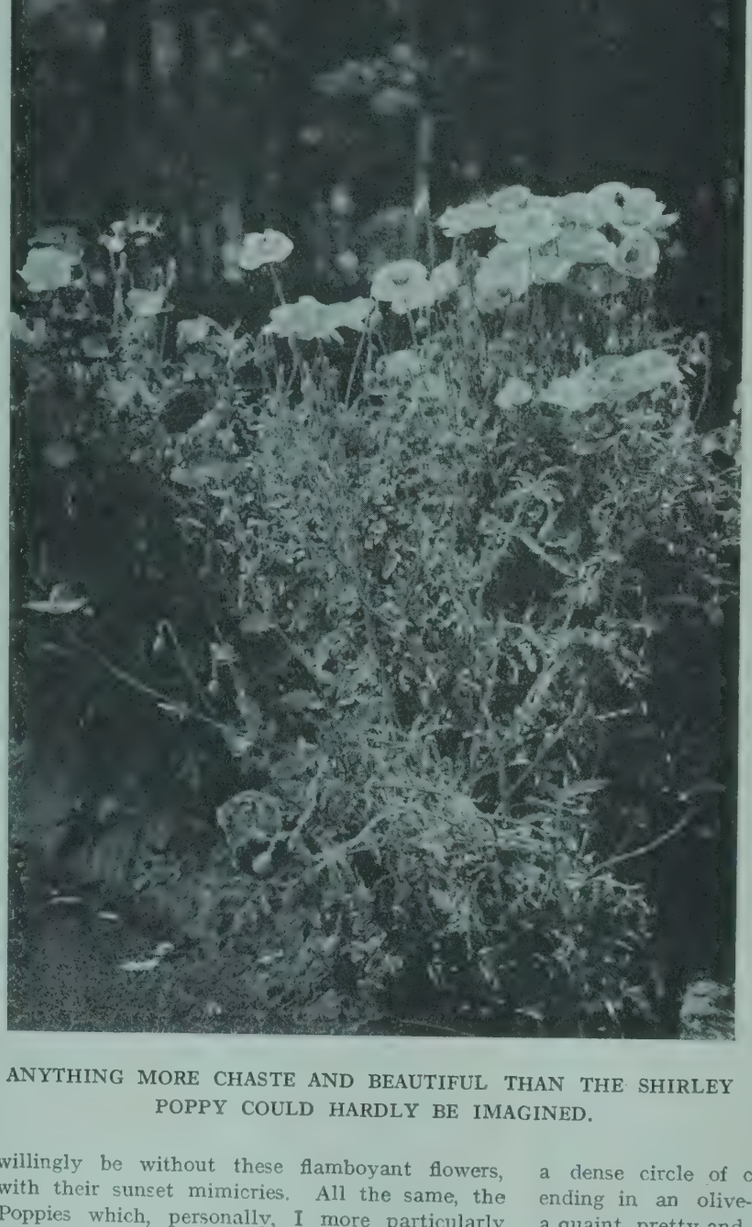
Very fleeting this year was the beautiful Euchryphia pinnatifolia which here grows quite rapidly and flowers with extraordinary freedom. It is an exceptionally beautiful and fragrant shrub, and additionally useful because it flowers at a very welcome season when, except for the forms of Buddleia variabilis, the shrubbery is bare.

If these few notes encourage other Midlanders to try plants not often seen in Midland gardens, they will not have been written in vain.

SHIRLEY POPPIES

The Shirley Poppy is everybody's flower. No annual has a wider or better deserved popularity. In addition to hints and comments on the true Shirleys, experiences are given of the so-called blue Shirleys.

SOME eighteen months or so ago, I had a good deal to say in THE GARDEN about Shirley Poppies and their ways, though I don't expect the memories even of those specially interested in the flower to hark back as far as that. I thought the flowers last year exceptionally fine, but, fine as they were, the display this year has been a full 50 per cent. finer, partly because annual Poppies have been grown more extensively, every foot of space not appropriated by something else having been given to these flowers, and partly because of the extra pains taken with the saving of last season's seed. One flower which seemed to me of exceptional quality I ticketed, for seed-saving purposes, Paragon; and a paragon it was, though it is, of course, absurd to think seriously of "fixing" to name or colour so sportive and variable a flower as the Shirley Poppy. The flower in question had all the points which seemed desirable in a Shirley: large size (for a Shirley might as well be an Iceland Poppy unless it is of generous dimensions); a long leafless stem, so that the flower stood well up when set in a jar; a fine tassel of yellow-anthered stamens; and substantial, crisply gauffred petals of a good colour—the outer two banded with a suffusion of soft peach, the inner pair repeating the outer, but more faintly touched with colour. Among the progeny raised this year from Paragon there have been many fine, and few really poor flowers. A considerable proportion of plants, as might be expected, have given more or less exact replicas of the original seed-poppy, some with a stronger, some with a weaker infusion of peach in the petals. But many others, while they reproduce the salient features of the parent flower in respect of shape, size, texture of petal, length of stem and so on, run through quite an extensive range of colour, from absolute white to rose, apricot, ruby and orange-scarlet. I find (and all who save their own seed have probably a similar experience) that my Shirley Poppies more and more each year reflect my own personal taste in colour, which tends to favour the lighter and more delicate, rather than the darker and more intense shades. Formerly, when I grew my Poppies from purchased seed, a large proportion of the flowers came rose-pink, which seemed almost to be the natural and typical colour of the Shirley, but of which in time one tired a little, partly from seeing so much of it, but partly also, I think, because the shade is a little hard. This colour, however, is now so much less common among my Poppies that I have come to regard it as exceptional. Also, among my Shirleys I have no room for crimsons and scarlets, which occur with me only as occasional rogues. In the Shirley Poppy, with its light base, one can hope for no such rich and satisfying crimson as that, for instance, of the Tulip Poppy, or of Papaver umbrosum, with its central cross of sooty black—the nearest approach in flowers to jet, except, perhaps, the blotch on the bloom of the Bean. I note, as another result of my seed selection, that most of my flowers are now picotees—have, that is to say, a more or less narrow edge, either of white, or, more frequently, of the ground colour in a lighter shade. Remarkably few self flowers occur, the more intense colours, such as ruby, vermilion and orange scarlet, being laid on in streamers and pencillings of various depths, each petal an aurora borealis in little. One would not willingly be without these flamboyant flowers, with their sunset mimicries. All the same, the Poppies which, personally, I more particularly affect are those large whites which, but for the scent, you might take for Romneyas, or those which, though not exactly white, are very near it, being touched with a flush of rose or apricot that rather accentuates than impairs their purity. These flowers, if they have not the sunset splendour of the others, have, in compensation, the cleanness and cool freshness of granny's linen sunbonnet new from the wash.



ANYTHING MORE CHASTE AND BEAUTIFUL THAN THE SHIRLEY POPPY COULD HARDLY BE IMAGINED.

Being, I fear, weakly open to the lure of novelty in Poppies, I have been trying this year a new strain of "Shirleys," recommended by the firm which supplies the seed as being "shades of blue and dove-grey." Probably no word in the language has led to more disappointment among amateur gardeners than this same "blue." Not that firms in promising the colour are necessarily conscious of misleading buyers, for with both sellers and buyers the inability to perceive what is and what is not blue is probably more common than most people think. At the same time, seed and plant purveyors are unquestionably too ready to describe as "blue" what is at most only bluish. One hears of blue Primroses, blue Canterbury Bells, and blue Sweet Peas. If there are such flowers, I have never seen them. I have myself grown this year all the "blue" Sweet Peas of which I could procure seed, among them such varieties as Commander Godsall, Jack Cornwall (these two are indistinguishable), Zephyr, Mrs. T. Jones, Florence Nightingale, Pastel Blue, Blue Monarch, Princess Mary, Delphinium, Wedgwood, and Captain of the Blues, but though all of these are bluish, more or less, and all worth growing—some of them, indeed, among the loveliest of Sweet Peas—not one of them can rightly be described as "blue." What, then, about the "blue" "Shirley" Poppy? Let me say, to begin with, that this Poppy is not a Shirley. "Shirley Poppies are (1) Single, (2) always have a white base, with (3) yellow or white anthers and pollen, and (4) never have the smallest speck or suspicion of black in their whole composition." Such are the Shirley essentials propounded by the Incumbent of Shirley, who has, presumably, the right to say what a Shirley Poppy is. With No. 1 only of these requirements do these so-called "Blue Shirleys" conform. They have not a white base, and, though they have nothing like the decided stain which is the beauty spot of P. umbrosum, there is nevertheless always present, I fear, the disqualifying "suspicion" of black. As for the crown of stamens, this, for my part, I find the most striking feature of the flower in question, a dense circle of claret-purple filaments, each ending in an olive-green ball of pollen-dust—a quaint, pretty and entirely suitable central finish to the Poppy, but as different from the yellow centre of the Shirley as could well be in the case of two varieties of the same species. Granted, however, that these Poppies are not "Shirleys," are they "blue"? No, they are not; nor can I think that the most careful selection prolonged to infinity

l ever make them blue. Still, I have seen flowers ling themselves blue which had no better claim the colour than these Poppies. A few of the wers give at least interesting hints of blue, nething approaching the shade, for instance, of e more slaty forms of Meconopsis Wallichii. As " dove-greys," here the raiser barely does his ain justice. There are certainly quakerish greys, t there are also other quaint and curious shades d combinations of shades, some mottled, some reaked, some netted—brick reds, strawberry nks, mahogany browns, cloudy mauves and liotropes; in short, quite a number of those tints unimpeachable sobriety and dulness which in these latter days we recognise as " art shades." Altogether I am glad to have made the acquaintance of these Poppies. Though they are not all they profess to be, and though I have no great expectation of achieving with them anything really blue in Poppies, I am not going to lose sight of them, but have marked for further trial some of the nearest approaches to blue. Meantime, one is curious as to the history of these Poppies. They are, of course, of the Rhœas species, and botanically identical with the Shirley. But by what channel have they diverged from the common ancestor, the Field Poppy? Who is, or was, their Wilks?

SOMERS.

NSECT PESTS AND THEIR DESTRUCTION IN WINTER

he provident gardener is he who, in defiance of the adage, meets trouble more than alf way. Much may be done, while plants are more or less dormant, to eradicate pests hich, left alone, will, at best, do much damage before they are got under control, and, at worst, may easily destroy the crop.

IN connexion with the usual routine of winter work in the garden, operations might be modified or arranged so as to have some bearing on the insect pests which are present and which, if overlooked, will become more r less serious the following season; for as G. C. ough states (Journal of the Ministry of Agriculture, November, 1920), it is more economical to " kill small number of the parasites while in dormant ondition than to delay action in the hope that hey may be effectively removed later." An ttempt is made hereunder to indicate some of the nost important pests, to give details of their vhereabouts in winter, and to suggest lines of reatment.

During the winter most pests are in the larval or grub stage, or else are in the dormant, pupal or chrysalid stage. Among the former are wireworms, leather-jackets and cutworms—*i.e.*, surface larvæ; they are to be found feeding at the roots of plants of the Cabbage family as well as other plants. Little can be done to prevent them, though preparations of naphthalin have been tried with some little success. Turning up the land and leaving it rough and unoccupied after the removal of the crop may possibly do some good by exposing the insects to the attack of birds. Of the two sorts of wireworms, agriotes and athous, the latter is likely to spend the winter feeding at the roots of the Strawberry. The Strawberry is liable, too, to the attack of white grubs (the larvæ of the cockchafer) and to those of weevil larvæ. White grubs are long-lived and take about three years to complete their larval feeding stage. Two or three of these grubs feeding at the roots will very quickly destroy a plant. This done, they pass on to the next. Thus it is possible to find in the Strawberry bed three or four adjacent plants in a row dying from the attack of this pest. Undoubtedly the grower is well advised to keep a watch on his beds, remove any sickly plants and search for the offenders.

Weevil grubs of the species Otiorrhynchus are constant enemies of the Strawberry. The larvæ feed in numbers at the roots of the plant, cutting them through near the crown. The plant is soon destroyed. In strawberry growing areas like the Cheddar and Tamar valleys this pest may become very serious. The winter is passed in the grub stage, not only outside in the Strawberry and Raspberry beds, but also in the greenhouse at the roots of Cyclamens, Gloxinias, Primulas and the like. The adults, which feed on leaves, petals, fruitlets, etc., might be caught in the greenhouse at night during the summer by shaking them from the plants on to white paper or sheets, when they could be destroyed; they might also be repelled or poisoned by the use of lead arsenate, 4lb. of paste per 100gals., applied to Strawberries immediately after the flowering period. Sickly plants should, during the winter, be replaced by healthy ones, the grubs being searched for and destroyed, as in the case of the white grubs. Where attack is suspected on indoor plants like Cyclamens, the most satisfactory treatment is to turn out the plants from their pots, search through the soil for the grubs, and repot into clean soil. For the most part soil treatments with insecticides are unsatisfactory.

Fruit trees should receive attention during the winter because many of the future pests are in a dormant state on the tree. There may be eggs of the apple aphis, apple sucker and red spider on the young wood, immature stages of capsids, adults of the apple blossom weevil and larvæ of the codling moth under or among the rough bark, moss or lichens.

Unless attended to during winter, these are capable of causing great damage in the growing season and so decreasing the yield very considerably. Perhaps the most satisfactory treatment, under these circumstances, is spraying in spring with lime-sulphur at the rate of one in nine to one in twelve. Experience has shown that this keeps the trunks clean, dries up the rough bark, destroys lichens and mosses, decreases the damage done by winter moth and other leaf-eating larvæ, and, if applied when the buds are showing green, is most beneficial in checking sucker and aphis.

Two important operations in the winter treatment of Currant and Gooseberry bushes, if performed, will be of considerable help in reducing losses. Cultivating, pricking over or forking between the bushes will disturb and expose the larvæ of the sawfly, Nematus ribesii. These, from the autumn brood, spin cocoons and remain in the soil as larvæ until spring, when they pupate. They are very susceptible to a disturbance and many are destroyed through the forking over. The other operation is in connexion with " big bud " in Black Currants. During winter the big buds can be more or less easily seen, and since the mites are in these buds and will migrate from them in spring and early summer, they should be picked off and burned. In connexion with this operation and as a check to big bud disease, spraying with lime-sulphur has given good results. Mr. A. H. Lees, M.A., writing in the " British Farmer," October 29, 1921, states, " The method consists of applying the spray at a strength of one gallon of concentrate as supplied by the makers to 11 gallons of water. The time of application is important, and is best indicated by the appearance of the plant. It is applied in spring when the most advanced leaves on the bush are about as big as a sixpenny bit. Some very slight scorching may result, but the flowers are too young to be injured and the damage to the leaves is negligible. If unfavourable wet weather does not persistently follow the spraying a very considerable check to migration is attained."

Raspberry beds, as well as being cultivated to reduce the attack of root-eating grubs, should, during the winter, as shown in the Journal of the Ministry of Agriculture, September, 1921, be examined for galls caused by the raspberry gall fly, Lasioptera rubi. If present, these should be cut out and burned. Hibernating round the roots may be pupæ of the raspberry beetle, Byturus tomentosus. That winter cultivation considerably reduces attacks by this beetle was demonstrated by the results obtained at the Research Station, Long Ashton (Report, 1919).

Numbers of pests in the adult stage spend the winter sheltering under rubbish, heaps of prunings, and such like—pea and bean weevils (Sitones sp.), the two Anthonomus sp. which attack Apple and Strawberry, and also codling moth larvæ. If strict cleanliness is observed about gardens and plantations the risk of attack is undoubtedly reduced. Posts along the fences of Raspberries and Gooseberries, where cordon trained, are the favourite places for pupating of the cabbage butterflies. In a bad attack in Gloucestershire numbers were found in these sites, others also pupated on the sides of greenhouses, in the crevices of walls and among the bark of fruit trees. In this case the pupæ were sought for in such places and destroyed, this operation considerably reducing the virulence of the attack in the spring and summer following.

Winter is the season when it is possible to clean and prepare glasshouses for the next year's work; thus vineries should be well cleaned prior to bringing in Chrysanthemum cuttings and so forth. One of the most important pests of the vine is mealy bug—Dactylopius sp. This is found under the bark-fibre, in crevices, around the eyes, and in crannies on the rods. It can be found too in wall crevices and similar situations. Fumigation is the usual method of control, hydrocyanic acid fumes being used; the vinery is made air-tight before fumigating and well ventilated afterwards. One very successful grower in Gloucestershire adopts the following method of treatment, which he finds most successful. The vineries are cleared of all plants in the winter and a good force of water from a hose is directed searchingly over all the walls and woodwork of the house and over the vine rods. This washes out all the bug which gets killed in the process. The jet of water penetrates all the crevices that might afford shelter and washes all insects out. The vines are then well scrubbed with hot water and soap, to which had been added a little nicotine or other insecticide. The process is followed regularly each year and very little trouble is ever caused by the pest.

Carnations during winter are liable to a disease known as stigmonose. This, as described in an abstract in the R.H.S. Journal, Vol. XXVIII, page 713, of work by Woods, in America, " is characterised by the appearance of small pellucid dots, irregularly scattered through the leaf, seen when fully grown, but young leaves are held against strong light." The general symptom is the yellowing in patches of the tips of the young leaves. It

is always associated with the presence of aphides, thrips and red spider. In a bad case which came under the writer's notice, aphides and red spider were present. They were checked by a soap and nicotine spray, but subsequently it was found that lime-sulphur, one in twenty, used against the carnation rust had a most beneficial effect, keeping down the pests very effectively.

In view of the recent outbreaks of white fly on Tomatoes and the advocation by the authorities of fumigation with hydrocyanic acid gas or tetrachlorethane, nothing need be said on this subject.

Earwigs, cockchafers and woodlice often cause considerable trouble in greenhouses—they may be trapped by a variety of means, many of which will be known to most gardeners. Many shelter in walls—particularly indoor fruit walls. Where bad infestation occurs it might be advisable to have the walls carefully pointed. Cockroaches may be combated by using, as advocated by Mr. Laing of the British Museum, a powder consisting of a mixture of sodium fluoride three parts, pyrethrum one part; this should be scattered round their haunts overnight.

Stored products such as seed, Peas, Beans, etc., may be attacked by such pests as niptus, ptinus and silvanus, all small beetles whose grubs feed inside the seed, destroying it. Seed should therefore be stored in air-tight receptacles and filled nearly full with the product; this gives the best protection against these insects.

HERBERT W. MILES.

Carnations and Chrysanthemums at Westminster

ALTHOUGH it was a smaller Royal Horticultural Society's Show than of late at Vincent Square, Westminster, on November 15, the three large banks of Chrysanthemums and several collections of Carnations made it very bright. Rich, full-bodied yellows were the most prominent colour among the Chrysanthemums, and the best of these were Mrs. R. C. Pulling of the exhibition varieties and Phyllis Cooper of the singles, though a vase of the smallish blooms of Advance in Messrs. Wells' collection was very satisfying. This last named is an incurved sort, not at all up to exhibition standard, but of value for house decoration. Baby Jack, a small-flowered single, in Messrs. Luxford's exhibit, is another Chrysanthemum that the experts would not countenance, but the floriferous sprays were highly decorative and contrasted well with those of Mrs. L. Forreau, a very small Japanese of intense colouring. Among the many excellent blooms in Mr. H. J. Jones' group was to be seen a perfect exhibition bloom of Mrs. Spencer Chichester, which was of especial interest in that it was with a similar bloom that he won the special prize offered at Le Mans for the best flower in the show. Although earlier than its proper season, the small white single Christmas Wonder was very beautiful.

POMPON CHRYSANTHEMUM MARGARET CLARK.

The dainty little Pompon Chrysanthemums found a place in several exhibits. These are excellent sorts for small vases and also for dinner-table decoration. Baby Felton, Golden Climax, Donald and Mlle. Elise Dordan are splendid sorts for growing in natural sprays.

Among the Carnations it was such vivid colours as provided by Lord Lambourne, Edward Allwood, Tarzan and Thor that attracted most, though the softer tones of those of pink colouring were very fascinating.

Adjoining their collection of Carnations Messrs. Stuart Low and Co. had graceful plants of Erica melanthera and a few plants of Acacia platyptera, a Mimosa which produces little fluffy balls of flower from Cactus-like growths—quite an *intriguing* plant, as the novelists would say.

There were two small rock gardens and each contained interesting plants. Messrs. W. Cutbush and Sons specialised with various little Junipers, such as Juniperus Sabina tamariscifolia and J. japonica aurea; while Messrs. F. C. Wood had the comparatively rare Veronica cataractæ in flower.

A vase of Rose Glory of Hurst supported t raiser's claim that this dwarf Polyantha is a ve free-flowering variety. Orchids were represent by a very few plants, and there was nothing in t way of fruits or vegetables for the visitor to s A few seedling Apples were submitted, but th did not appeal to the Committee.

NEW AND RARE PLANTS.

Chrysanthemum H. Sleet.—This beauti Japanese variety, which received the N.C. first-class certificate on the previous day, w recommended for an award of merit. Shown Mr. G. Carpenter.

C. Margaret.—Similarly the Floral Committ confirmed the judgment of the N.C.S. by givi an award of merit to Messrs. P. Ladds, Limite for this variety.

C. Hillier's Apricot.—The reasons for the nam and the award were not readily apparent. Th first may be attributed to the bad light in the ha where the apricot, if any, was merely the suggestio of a slight suffusion. As we saw it the colour this medium-sized single is rather a golden bu with a faint rosy suffusion on some florets. It said to be a sport from Mrs. W. Buckingham, bu is not so well formed as that variety. Award merit to Messrs. Hillier and Sons.

C. Helena Margerison.—This excellent larg Japanese variety did not find favour with th Committee, though many visitors were charme with its shapeliness and dainty ivory white and pin colouring. Shown by Messrs. Keith Luxford and Co

C. Margaret Clark.—A fascinating little Pompo of perfect shape and produced in graceful sprays The colour is a pale blush merging outwards int light mauve. This should be an excellent variet for placing in small vases and for use as a button hole flower. Shown by Messrs. Keith Luxfor and Co.

Sophro-Cattleya Dorea Louis.—An intensel gorgeous bloom of rich velvety crimson colou over a golden ground which is seen on the sepal and appears as regular lines on the lip. Award o merit to Messrs. Stuart Low and Co.

Vanda Cœrulea Bodnant Rose.—This is a exact rosy-coloured counterpart of the well known blue, Vanda cœrulea, a plant of which accompanied the new variety, which is exceedingly uncommon as well as very beautiful. First-class certificate to Lady Aberconway, Bodnant, North Wales.

NEW CHRYSANTHEMUMS.

THERE were no fewer than sixteen new varieties "up for award" at the meeting of the Floral Committee of the National Chrysanthemum Society on November 14, and most of them were of unusually high quality. With one exception they were free from the attacks of mildew which disfigured several varieties at the previous meeting. Of the varieties which failed to receive recognition Mrs. D. Andrew, an immense Japanese variety, seemed deserving of a better fate. The blooms are made up of very long, broad, slightly curled florets of pearly whiteness. Its only fault seemed to be that it was not likely to travel well, but it would be valuable for home decoration, and we imagine that it is not a "difficult" variety.

Chrysanthemum H. Sleet.—This variety is of most delightful colouring, which may, perhaps, be best described as being deep terracotta with a chestnut sheen. It is a Japanese variety of good exhibition size and the florets are unusually broad. First-class certificate to Mr. G. Carpenter.

Mrs. Rupert Wilks.—A large, compactly formed exhibition Japanese variety of golden bronze colouring with a yellow reverse. First-class certificate to Messrs. Keith Luxford and Co.

Dr. M. Inglis.—A medium-sized exhibition bloom of good substance and light amaranth

uring, which is enhanced by a silvery reverse. t-class certificate to Messrs. Keith Luxford Co.

sme Waters.—This is a large, golden yellow le of no particular merits except, perhaps, t the disc is rather smaller than in other ieties of similar colouring. First-class certificate Messrs. F. Ladds, Limited.

Margaret.—A very handsome single of rather re than medium size. It is a rounded bloom, h plenty of substance in the florets. The warm, nzy terracotta colouring is a trifle lighter at tips and the flowers have a narrow white zone. st-class certificate to Messrs. F. Ladds, Limited.

Ditton Bronze.—A smallish Japanese variety which is very lumpy and unattractive as disbudded blooms, but quite graceful and of value in spray form. It is of golden bronze colouring. Card of commendation to Mr. W. Jinks.

Mrs. P. H. Riley.—A pretty, large-flowered single. The milk-white ground colour is lightly flushed with soft pink except around the disc, leaving a white zone. Card of commendation to Mr. W. Jinks.

Mr. P. H. Riley.—A large yellow single of moderate quality. Card of commendation to Mr. W. Jinks.

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

I HAVE always been in favour of the formation of a National Daffodil Society, and I fully dorse the Editorial note in THE GARDEN of ov. 5—that "emphatically, the Daffodil growers emselves should run their own show." I was terested in the discussions and attended the eeting in 1912, and it seems to me that Mr. Jacob's tter of Nov. 5 may be somewhat misleading, r it gives the impression that the original issue as whether there should be a National Daffodil ciety *or not*. That was not the real issue; any, probably most, of those who were opposed Mr. Jacob and his friends on that occasion ere equally in favour of a National Daffodil ciety. The real issue then—and apparently r. Jacob is raising it again—was whether there ould be an independent National Society, or hether the Midland Society should constitute self the National Daffodil Society. The result the meeting was that this latter proposal was jected, and that then, as there was no hope forming an independent National Society ithout the co-operation of the members of the idland Society, the offer of the R.H.S. to hold n annual show and issue a Year Book was dopted as a compromise. The same objections old good now as then. If the proposal was ver to be adopted, the National Daffodil Society o formed would not be a National Society at all; t would simply be the Midland Society under new name. It would, of course, be very conenient for those living in the Midlands for a ertain radius around Birmingham, but beyond hat radius the interest in it would diminish with he distance from the centre, to vanishing point. Few, if any, would join who do not belong to it lready as the premier Daffodil Society, and it would therefore lack both the authority and the resources that only a truly national membership can bring. But if this proposal be definitely put aside we should have general, if not unanimous, agreement on the main point, and the formation of a National Daffodil Society would be no more than a matter of organising detail. Mere criticism, however, is seldom helpful, so I venture to offer suggestions as to what seem to me to be the most essential conditions of success, derived partly from my own small experience and partly from outside observation of the most successful societies, such as the Rose and Sweet Pea Societies and the American Pæony and Rose Societies. (1) A National Society should be independent of any single local society and act as the federal centre for all, each local society having the right to send a representative to the governing body of the National Society. (2) The management of the Society should be in the hands of the representatives of those who contribute most largely to the membership. That is, the majority of the council and executive should be amateurs and representatives of the general gardening public; for it is from them only that a large membership can come, the breeders and nurserymen being a mere handful in comparison. (3) The National Society should hold its annual show (or shows) not at one fixed place, but at different centres each year—as, for example, the Royal Agricultural Society and the American flower societies do. Supposing—merely as an illustration—that four centres should be decided on, at any rate for a beginning, the National Daffodil Society would hold its annual show (if only one) at some town conveniently and centrally situated in each of these districts in rotation. Let us say in Leeds or York for the Northern district one year, Birmingham for the Midland district the next year, then London for the South Eastern, and Exeter or Tavistock for the South Western in the following years. The show would be held with the co-operation of the local societies within each area, thus establishing an informal federation of all the Daffodil societies in England, with a healthy rivalry between the districts and stimulating interest in the Daffodil *equally* throughout the country. The local societies would be greatly strengthened and would carry on during the intervening three years of the rotation, holding their own shows and preparing and looking forward to making *their* meeting of the National Society better than that of any other district. If two shows were possible—and with a successful Society with a large membership two would easily be possible—the rotation period could be shortened, or the number of the districts or centres could be increased. There are, of course, many other conditions of success, and some important, but they are either of an incalculable nature, such as the personality of the officers of the Society, or are more of the nature of details of organisation; but these three are, I think, fundamental.—A. J. BLISS.

[The proposal did not on this occasion come from Rev. Jacob.—ED.]

THE FRUITING OF VITIS HETEROPHYLLA.

WITH regard to the note as to the fruiting of Vitis heterophylla in your issue of November 5th, two plants of it have fruited splendidly here this year, which they have only done once before.—WALDEGRAVE, *Bath*.

VARIEGATED PHLOX.

I THINK perhaps some of your readers may be interested in the enclosed photograph of Phlox Comtesse de Jarnac, which is surely one of the finest variegated herbaceous plants we have. The colouring of the flowers is not, perhaps, very attractive, but it contrasts effectively enough with the silvery foliage, which becomes progressively whiter as the inflorescence is approached. Do any readers know of any other Phlox with variegated foliage? I should like to try others if there are any. Variegated plants can easily be overdone, but a good specimen occasionally gives a very striking effect.—H. H.

THE STRIKING VARIEGATION OF PHLOX COMTESSE DE JARNAC.

THE REFORM OF THE POST OFFICE SERVICE.

I AM delighted to read Mr. Ryder's excellent letter about postal charges. I had anticipated his advice to write to my M.P. on the matter, and I do hope that others of your readers will do the same. But I should like to remind Mr. Ryder that most of the railway companies have fixed their "Owners' risk" charges below those of the P.O., and it is a patriotic duty incumbent on all to do their best to show the Postmaster-General that his little dodge does not pay and thus obtain a return to the old rates. Of course, to diminish what you give and increase what you charge for it is the crude remedy of incompetence for growing expenses and dwindling profits. It is so much easier than patient and thorough investigation tending to increased economy and efficiency. In ordinary business it would lead to bankruptcy. It is only possible in the case of a monopoly (that dominant parent of inefficiency), and likely where a fixed salary leaves the manager practically unaffected by the success or failure of the office he administers. It is difficult to get at the real facts. In my Almanack (Hazell's) I find that in the 1920–1921 Estimates the returns are given: Postal service, 32 millions; telegraphs, 5 millions; and telephones, 9½ millions, but the outgoings are all lumped together, 49–50 millions, a deficit of rather over 3 millions. We are given what each of these three departments produces; why are we not given what each costs? It is believed that letters, &c., pay, and more than pay, their way, and that the losses are incurred on telegraphs and telephones. We all know that when telephones

were run by the National Telephone Company they paid good dividends. It was not till the Government took them over, at a very low price, that they were run at a loss, though the service is more expensive, and those who possess telephones say that it is not nearly as good as it used to be. Out of twenty-six telegraph and telephone companies in my stockbroker's list only one failed to pay something on its ordinary shares last year. No one can have the very smallest doubt that if our telegraphs and telephones were administered by a limited company they would make large profits, and not only that, would probably give better and cheaper services. It is hard and wrong that the poor woman in a cottage, anxious to write to and hear from children who have gone from their old home to make their way in the world, that business men struggling with hard times, especially those largely relying on advertisement by circulars, should be taxed to make up for deficits caused by a Government Department taking over a prosperous business and, by their incompetence and maladministration, turning it at once into a losing concern. It seems to me to be the duty as well as the interest of everybody to do their best by cutting their correspondence to the lowest limit, to defeat this trick of the P.M.G. It is wonderful how many letters will do without an answer at all; how many answers are by time shown to have been unnecessary. As I have already said, Mr. Ryder will, I think, find the railways cheaper and quicker than the Parcel Post. A friend on a recent Saturday received by rail a parcel he did not expect. On the following Tuesday he received a postcard to inform him of its having been sent! I send away some hundreds of boxes of fruit annually. I have given orders that all addressed to places within the railway free delivery shall go by rail. Christmas is coming on. I am telling my friends that, as my humble individual protest against the postal extortion, I am not going to send any cards this year. If only a large number of people will act on these lines I think that we shall soon have reduced rates of postage, followed by better times commercially.—AN AMATEUR GARDENER.

GLADIOLUS PRIMULINUS WOODCOTE.

I WAS very glad to see in THE GARDEN for October 22 what Mr. Gibson said of the beautiful primulinus hybrid Woodcote. He once told me he was making a speciality of this new race of Gladioli, and from his article I gather he has already got to work and annexed a goodly collection, not only of those raised at home, but also of those raised in other lands. He calls Woodcote "Britain's best." No mean praise coming from such a source. I have seen it twice at shows and each time I was very taken with it. It is the very best I have ever seen. Do Mr. Gibson and I agree why we think so highly of it, I wonder? He puts colour first, which "*reaches* perfection"; then shape, which is "near perfection." To me this is the cart before the horse. The colour of Woodcote is good—*very* good—I allow; but the form of the individual flowers is better; while best of all is their placing on the spikes. I long to have a fairy's power and say: "So far, but no farther"; to have the power of a Nash over the fashionable world at Bath to cast into outer darkness (syn., the "rubbish heap") all varieties which contravene this condition of entry into our gardens. The small saucy blooms and their spacing on the slender, slim spikes is the special gift of primulinus. Are we going to be so stupid as to refuse it? Gandavensis I know; Lemoinei I know; Childsii I know; but who are you? Are we going to say to Woodcote "you are all very well in your way, but wait until I make you into a Princeps"? Readers turn to THE GARDEN for October 22 and see on page 526 natty Nydia and wonderful Woodcote, and on the very next page the flower-dressed telegraph pole of dutiful Darling and the "blessed" blob of conventional Cicely. If these be your gods, why trouble to destroy the charm of a new and beautiful race? Halley, Princeps, White Giant and Mrs. Charles Palmer take a lot of beating.—JOSEPH JACOB.

A USEFUL GREENHOUSE PLANT.

CAN you tell me the name of the plant—a Begonia I take it to be—of which I send you a photograph? I find it almost as useful under glass—it is very free flowering and lasting—as the perennial Gypsophila outdoors.—ENQUIRER.

[Our correspondent's plant is Begonia manicata, and the specimen photographed a young plant.

THE GRACEFUL SPIRES OF BEGONIA MANICATA.

It is for a greenhouse plant very widely distributed and is even to be found in cottage windows. It well deserves the praise "Enquirer" bestows upon it.—ED.]

AN IMPERIAL BULB GROWERS' ASSOCIATION.

I THINK your notes and the dummy advertisement in the last issue of THE GARDEN are tip-top. There is a good deal of correspondence flying about on the subject and I think there will be a National Daffodil Society, and I hope that even the British Bulb Growers' Association may materialise. I hope so, and that the two may be worked together, and I do not see why it should not include the Colonies and be Imperial.—W. A. WATTS.

PLANTING OPERATIONS.

HOW many people when engaged in planting their gardens, and particularly the tree and shrub parts of them, do so without realising that the selection of suitable types for their particular soil, the grouping of them and proper spacing having regard to their future growth, and the proper preparation of the soil, are matters of the utmost importance? In most cases much better results would be obtained were they to seek the advice of an expert in such matters. Gardeners in charge of small places, perhaps single-handed, are, as a rule, very intelligent men, good workers and anxious to do their best in every way for the development of what is in their charge, but it is hardly reasonable to suppose they have really expert knowledge in all the hundred and one varieties of beautiful shrubs now available. If they had, one doubts if they would remain in such positions. Expert knowledge must, of course, be paid for, and it is, perhaps, this one thing which often prevents intending planters from obtaining it; but if they did but know, economy of this kind often means in the end extra expense. Such an expert must have wide knowledge. He should know trees and shrubs "inside out," and be familiar with them in all stages of development, should be a colourist and be able to visualise ideal groupings of flowering and foliage plants. He should understand the properties of soils, what particular class of plant, for example, can be used on chalk, clay, black soil, and that of a sandy or peaty character. Other essential knowledge would be as to exposures suitable for the more tender plants, as to what will grow in towns or in smoky atmospheres, the use and effect of manures, and, perhaps, most important of all, trenching and preparation of ground for the reception of the purchases.—F. G. W.

TO SMOKERS.

HERE is a tip for you, gardener smokers! You all know the joy of a good spill as you sit over your winter fire. I do not refer to an upsetting of your whisky and soda, but to that little appliance generally constructed of folded paper by the kind womenfolk. These are usually 6ins. or 8ins. long, in a pot on the mantelpiece. You have to get up to reach them. Then you have to scorch your hand as you hold the wretched thing trying to get a light from the fire. This is what I do. In the late autumn I go into the garden and cut off a bunch of dead herbaceous stuff, especially Lilium stalks. A wipe over with the hand soon removes the dead leaves. These must be well dried (I have a stock over from last year which are thoroughly dry). Stand them in some receptacle—I use an old shell case—by the fireside and near your armchair. Now you have a good store of long spills, 3ft. or even 4ft. long. Without getting out of your chair you can pull one out, dangle it in the fire till well lighted, and apply it to your smoke in all comfort.—BROOKLANDS.

AN IRIS "WRINKLE."

IT would be interesting to have the views of some of your readers in regard to the treatment of Iris tingitana. Being a native of Tangiers, one would expect that lifting it after it has died down and replanting in the autumn would suit it. Treatment of this description has been most unsuitable with me. It makes very good growth but no flowers. The next method I adopted to try to make it flower was not to shift it at all. The result from a stronger growth point of view was even more marked, as it grew luxuriously and increased tremendously, but still no flower. I then decided that I would check this abnormal growth, and shifted a clump in the middle of winter when it was about 8ins. high. The result has been most satisfactory, as it now is giving me a magnificent display of bloom, while the other plants, although looking extremely well, have not a single bloom. My soil is a light sandy loam, yet very hot in summer.—E. J. HERRICK, *Hastings, N.Z.*

OBITUARY

MR. EDWIN MOLYNEUX.

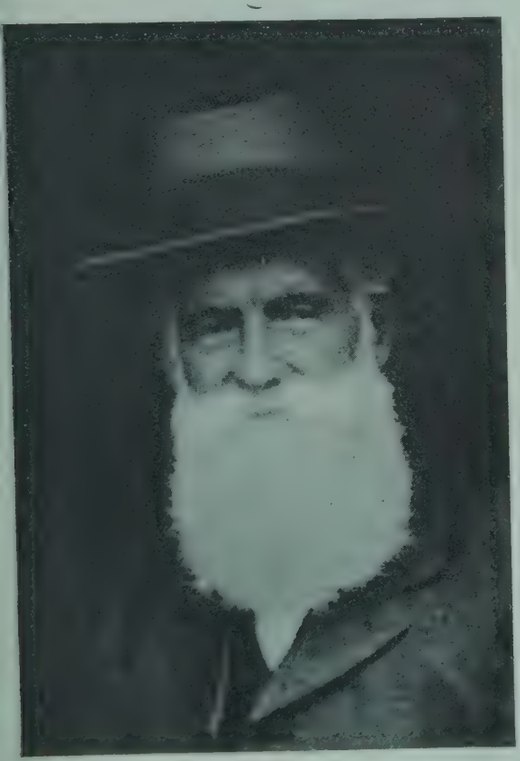
was with something of a shock and much regret t we heard, just as we were going to press, of death of Mr. Edwin Molyneux, a much esteemed d not infrequent contributor to these columns. th the loss in so short a space of time of Mr. kins, Miss Philbrick and now Mr. Molyneux, seems that THE GARDEN must, willy-nilly, urn over a new leaf" at the completion of its lf century of publication.

MR. A. G. GENTLE.

E regret to learn of the death of Mr. A. G. ntle, who for many years was gardener to Mrs. nnison at Little Gaddesden House, Hertford-ire. He had only recently retired from private rk and had entered commercial gardening on s own account. Mr. Gentle was an exceedingly ccessful exhibitor of vegetables at the R.H.S. ows and elsewhere, and probably grew the tato Onion better than anyone else in his neration, while he won a great number of prizes r Onions and Potatoes. He was a man of fine resence and had a genial temperament which on for him a large circle of friends, who will ourn his comparatively early demise.

MR. E. H. JENKINS.

HE late Mr. Edmund Howard Jenkins, whose ortrait is reproduced, was, despite his patriarchal ppearance, but sixty-five years of age. He was for



THE LATE E. H. JENKINS.

twenty-five years a member of the Floral Committee of the Royal Horticultural Society and for twelve years lecturer to Swanley Horticultural College. A part time judge and lecturer to the Surrey Education Committee, he was known and highly esteemed by horticulturists not only in Britain, but in Canada, China and Switzerland.

Mr. Jenkins was the raiser of several varieties of plants, particularly Saxifrages and Campanulas.

As an authority on herbaceous and rock plants he was unexcelled. His very practical articles on their culture will be familiar to all readers.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Lawns.—The renovation of small worn-out patches and the re-laying of any grass verges necessary should be done as soon as possible, choosing dry open weather for this work. Where a tennis or croquet lawn is being repaired care should be taken to maintain a perfectly level surface. In the case of exhausted lawns and where it has not been convenient to dig up and re-seed much may still be done to improve it by applying a suitable top-dressing now. This may consist of two-thirds loam and the remainder old manure, with some wood ash and bone meal added. The two former should be passed through a sieve. This dressing, evenly applied and raked in several times during the winter and followed in the spring by an application of a good lawn manure, will generally result in a marked improvement in the quality of the turf. The open weather has been most favourable, and where seeding down was done when advised in an earlier calendar the young grass looks very promising.

Christmas Roses will need some protection if good clean flowers are expected by the end of the year. A portion of the roots should be covered with frames or handlights if sufficiently large, or a few roots may be lifted and placed on the border of an early fruit house.

The Kitchen Garden.

Potatoes.—As opportunity occurs look over all Potatoes, more particularly those which were not graded at the time of lifting. The seed tubers having been picked out should be placed in shallow trays or on staging in an airy position secure from frost. Those required for early forcing should be stood on end in shallow boxes and placed in a light position to encourage sturdy sprouts.

Winter Cucumbers carrying a crop should receive root encouragement by applying at intervals a light rich top-dressing. All spent foliage should be cut off and the young growths kept regularly pinched, but it is not advisable to do this as hard as for the earlier plants, for by encouraging a fairly free growth the roots will be also kept active, an important point during the winter months. In open weather maintain an even temperature of from 65° to 70° at night, with a corresponding rise in the daytime, but on cold nights it may safely be lowered to 60°. A certain amount of humidity is at all times beneficial.

Peas.—No time should be lost in getting these into the ground where autumn sowing is still practised. Select a round-seeded variety, such as Pilot, and sow in shallow drills on a warm and well drained plot into which plenty of manure has been worked. On cold heavy soils the results from autumn sowing are not worth the labour.

The Onion Bed.—It is very beneficial if the ground for Onions can be thoroughly well prepared beforehand. While the work of deep digging or trenching is in hand, apply some good farmyard manure liberally, and allow the land to lie in a rough state so that the weather may play upon it.

The Hardy Fruit Garden.

Pruning.—With the fall of the leaf this operation is generally in full swing and it is good policy to rush as much of it through as possible in mild open weather, for just as much again can be done by the men under the above conditions as during cold, bleak weather later. Cherries and Apricots having been finished, Plums, Apples and Pears can be dealt with, but Peaches and Nectarines should be left until the spring. In dealing with established trees with long spurs, some of them should be shortened back about half way or more, removing some of them entirely if too crowded to allow the sun and air to penetrate. It is not wise to deal in too drastic a manner all at once, so spread the operation over a couple or three seasons. Such long irregular spurs as here referred to may often be seen on Pear Trees, Sweet Cherries, Plums and cordon-trained Apple trees.

Plants Under Glass.

Malmaison Carnations.—Continue the potting on of the young plants as they become fit, using as a compost two-thirds good fibrous loam, a little flaky peat and some leaf soil. Add to the whole some old mortar rubble, wood ash and a little soot, with enough sharp sand to ensure porosity. Pot firmly and be sparing with the water until there are plenty of roots in the new soil. A temperature of from 45° to 50° is enough on cold nights, and a buoyant atmosphere should be maintained by keeping the hot-water pipes lukewarm always, with a fairly free circulation of air. From now onwards for some weeks the old plants intended to give a display next summer should be kept at rest as much as possible. To attain this end give only sufficient water to keep the roots alive and give an abundance of air whenever possible. A temperature of 40° or even a few degrees less will do quite well for cold nights, allowing a few degrees warmer on mild nights and during the daytime.

Begonia Gloire de Sceaux.—This plant delights in plenty of heat and moisture while making its growth. This completed and the flowering stage reached, both may be somewhat reduced. Its bronzy leafage, with pink flowers thrown well above it, makes this plant always an object of great beauty during the dull days of winter, and it is rarely that it fails to win appreciation.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Herbs.—The herb border should now receive a general tidy up, clearing off all withered material and weeds. Beds of Mint derive benefit from a top-dressing of leaf mould or light potting soil.

General Work.—Work out of doors has been greatly hindered in the North by extremely wet and stormy weather. Digging and planting must be left meantime until drier conditions prevail. Look over Lettuces in frames, clearing away decayed leaves and encouraging fresh growth by regular ventilation. Gather Bracken or Spruce branches for convenience in covering Celery or frames should the weather be severe later on.

The Hardy Fruit Garden.

Pruning Black Currants.—Unlike Red Currants, these should never be subjected to spur pruning, but by judicious thinning and by cutting out a certain amount of the old wood annually plenty of fine young fruiting growths may be expected. This, with generous cultivation in the way of affording the roots a plentiful supply of manure, keeps the bushes in a healthy and productive condition. When the plantation is of goodly proportions and where the loss of part of the crop is not of serious moment, alternate rows may be cut hard back occasionally and thus obtain an abundance of vigorous growths. This method, if followed up, keeps the bushes shapely and clear of old and decrepit wood. Where the Black Currant mite is troublesome to a limited extent the infected wood should be cut away and burned at once. If the attack is general the wisest procedure is to grub up bushes and plant afresh with clean stock in a different part of the garden.

Loganberries.—Cut away the old growths of these and tie in the necessary quantity for next season's fruiting. As the Loganberry is of rampant growth a site in the outer or rougher portion of the garden may be assigned them if further planting is thought of.

Plants Under Glass.

Winter-flowering Begonias.—The Lorraine type are now flowering profusely, and if given careful attention, with the genial temperature of an ordinary greenhouse, should last well over Christmas. The later and taller growing Gloire de Sceaux, with its attractive copper-hued foliage, is now bursting into flower and adds considerable variety to the greenhouse; this sort may still be assisted occasionally with artificial feeding.

Perpetual-flowering Carnations.—Late struck batches will now be ready for advancement from the propagating frame into 2½in. pots. Use a light potting mixture meantime so that roots may be more readily formed. Keep careful watch on plants in flower or about to flower so that they may be kept clear of the many insect pests liable to attack them during the period when growth is less active. Keep the night temperature ranging from 45° to 50°, according to the weather conditions outside, allowing a little ventilation at night, unless there is severe frost or piercing winds

The Stove.—During inclement weather opportunity should be taken to overhaul and re-arrange the plants in this structure. Give the woodwork and glass a thorough cleansing, afterwards sponging the foliage of Palms, Dracænas, Crotons and other foliage plants. Use tepid water and add the prescribed quantity of a reliable insecticide

The Pleasure Grounds.

Protecting Shrubs.—Many tender subjects, such as Olearia stellulata, O. Gunni and macrodonta, Solanum crispum, Carpentarias, Pittosporums, Myrtles, and many others known to be easily damaged, should be afforded some protection in case of very severe frost. More especially if the plants are young or newly planted should they receive this attention. We find in most cases feathery Spruce branches serve this purpose well, particularly so when covering plants on walls or trellis. Bracken is also useful for smaller plants.

Garden Walks.—It is desirable that garden paths should be well drained and firm, with a smooth surface. Indeed, there is nothing that adds more to the appearance of a garden than do well kept walks, but when these are bad the whole place has an uncared-for and neglected look. There is nothing more aggravating than to walk along a garden path which, after rain, has developed into a series of pools, and yet it is all a question of how the path is made and kept. In making a garden walk provision should be made by means of a proper drain, with grids at intervals, where necessary, for carrying off the surface water.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

Schedules and Schedule Making

"I venture to think that there is no more fertile ground for error and misunderstanding and consequent friction, than is provided by the wording of many of our Flower Show Schedules." The Rev. W. Wilks, in R.H.S. Rules for Judging.

SAVE for some Chrysanthemum shows, at which fruits and vegetables are also usually most admirably displayed, exhibitions are over for the year, and those responsible for the management of horticultural societies will find themselves shortly face to face with the task of making arrangements for 1922. Among the most important and onerous of their duties will be the compilation of schedules for the season's shows and a consideration of the rules and regulations governing them. The present moment is, therefore, particularly appropriate to call attention to common errors and faults and to discuss briefly how these may be avoided without effort beyond that of careful thought.

The first point upon which insistence must be placed is that the schedule, as printed and published, with its rules and regulations, is binding on all alike—exhibitors, judges and society's officials. The slightest deviation from them must entail hardship on someone, and probably it will lead on to irritation and trouble. At present many committees print and issue schedules in which the wording is so loose and careless that it is open to two and often to three interpretations, of which the exhibitors may accept one and the judges another. The latter harassed and commonly overworked officials call the attention of the secretary and attendant stewards to the questionable point. There is then a short conference, and it is resolved that "It shall be left to the discretion of the judges to do what they consider to be right." Is this fair either to exhibitors or judges? The committee knew, doubtless, what was intended, but exhibitors and judges, not being endowed with the power of reading into men's minds, did not, and yet the onus of finding an interpretation is thrust upon the latter. The whole thing would be farcical did it not lead to so much bad feeling between all concerned.

The time has more than come when schedule-makers must realise that it is their bounden duty to know what they want precisely, in the first place, and to know how to express their wants explicitly, in the second place. Ambiguous language must not be permitted. Instead, the wording must be simple, brief and quite impossible of misunderstanding or misinterpretation. These strictures on schedule compilers do not apply only to the managers of small shows of purely local importance, but also to those whose exhibitions in the provinces are on a parallel rank with those of the Royal Horticultural Society in London.

There would be some excuse for the many errors of omission and commission if there were no fount from which information and advice could be drawn. The Editor of THE GARDEN receives many letters on the subject, but they come when the trouble has arisen. The point in doubt is made clear and correction should follow in the next schedule, but, as a matter of fact, once elucidated the whole affair is usually forgotten.

Comparatively recently there reached the Editor the following questions: "Are Roses perennials?" and, as supplementary, "Are they eligible to compete in the undermentioned class: 'Four bunches of perennials, distinct sorts'?" There could be, of course, only one answer to both of these queries—"Yes." The doubt arises, however, as to whether the compilers of the schedule intended that Roses should be included. In view of the fact that there are almost always special classes at summer shows for Roses, it is fair to assume that the intention was to exclude them, but such a course could not be taken under the wording published. Another point arises, too. Let the class be specified again: "Four bunches of perennials, distinct sorts." What did this committee mean by "sorts"? If an exhibitor had staged four distinct varieties of Roses, of Carnations, of perennial Phloxes or of Delphiniums he would have been within the wording of the class and could not, therefore, have been disqualified; but it could not have been suggested for one moment that he had read into the wording the intentions of the committee, for these were that the bunches should be of distinct kinds

In the schedule of a flourishing South of England society one may find a class reading "Collection of Annuals (six sorts) one bunch of each." Did the committee mean kinds? It would be the height of absurdity to think otherwise, knowing that there are several classes for Sweet Peas in the same schedule. Yet had an exhibitor staged six distinct varieties or sorts of Sweet Peas he would have been in the right, and neither committee nor judges could have ruled to the contrary. The error of confusing the words "kinds" and "varieties or sorts" is common to the majority of schedules in the country.

When the attention of societies' officers is drawn to points such as these the reply is always to the effect that "exhibitors will know what is meant." This is true up to a point, but it is a poor excuse for work badly or carelessly done. That exhibitors do not know always is proved to demonstration by the disputes and protests that come forward regularly year after year.

Apart from the horticultural Press, there is the supreme, or what ought to be the supreme, court of appeal for advice—the Royal Horticultural Society. Many years ago the Council realised that the incorrect wording of schedules was causing very real irritation and confusion, and at considerable trouble and expense issued its "Rules for Judging," in which are embodied clear suggestions to schedule-makers, judges and exhibitors. Here is a book which should be in the possession of the secretary of every horticultural society in the kingdom, and it should be a duty of this official to make himself familiar with its contents and to have the book on the table at every meeting when the compilation of the schedule is under discussion.

Space is not, of course, available to give numerous instances of correct wording. It must suffice to urge the strictest uniformity and simplicity in wording all classes. As examples: In a collection of fruits specify the number of distinct kinds, *i.e.*, Apples, Pears, Plums, and so on. In a collection of Apples, or of Pears, or of Plums specify the number of distinct varieties or sorts. And proceed on identical lines with vegetables. Flowers are, perhaps, more difficult to define, but the "Rules for Judging" pamphlet is an authoritative guide, and its suggestions are loyally accepted by all the leading judges, even in those few instances where the decisions are in opposition to their personal convictions.

It may be thought, after reading the foregoing remarks, that it is only the schedule-makers who cause trouble, but this is not the case. Some exhibitors have an unholy power of reading correctly worded classes wrongly and in reading incorrectly worded classes in a sense which suits themselves, whether they exercise common-sense or the reverse. When justifiable disqualification hauls them over the coals they raise their voices loudly and generally unreasonably, to the discomfort of themselves and others. It is doubtful whether all exhibitors will ever reach that high stage of education which teaches that 6 is a specific number and, consequently, that it is not equalled by 5, 7, 8, 9 or 10. Again, they cannot be convinced that the time of judging is anything other than a movable feast, and here officials are much too prone to pander to them for fear, presumably, of giving offence. The stipulated time must be observed rigidly. To give one man an extra half hour or hour to stage his Roses, let us say, on a hot day is often to give him many points towards a prize, since the judges must adjudicate on the flowers as they are, not as they were an hour or so earlier or as they may be an hour or so later. The man who is ruled out for being late will learn a lesson from which he will benefit, and if he fail to do so the sooner he drops out of the exhibition arena the better, as he is not only a cause of injustice to his fellow exhibitors, but a worry and a nuisance to officials and judges alike.

What of the judges? They are on the same level as kings, who, as is well known, can do no wrong. They can and do, however, make mistakes (as did those who disqualified a collection of fruit because it contained nuts) and are always ready to correct them when their attention is drawn to the errors with proper courtesy. They cannot please every exhibitor equally in a class, and they are frequently sweepingly condemned; but of one thing there is no doubt, and it is that there is no more upright, conscientious body of men than those who officiate as judges at the horticultural shows of the British Isles. They carry out their duties with scrupulous care, they do not grumble at the amount of work thrust upon them, and they are courteous to all, even to the disappointed exhibitor who threatens them with a bludgeon because his fifth-rate stuff did not get the first prize. They wonder sometimes at the niggardly remuneration offered for highly skilled services, but they say little, because they know that exhibitors as a whole, and particularly in the smaller societies, want all the cash. L. H.

THE GARDEN

No. 2611.—Vol. LXXXV.] [December 3, 1921.

NOTES OF THE WEEK

WITH the advent of December the major part of the season's planting should be complete, but in very few instances will weather conditions have allowed this to be the case this season. Every effort should be made to press on with this work whenever ground and weather are suitable. Weather conditions in spring are ofttimes far from ideal, and at that season there is much other work which must have attention. The routine work is in spring particularly tiresome when alterations have to be completed, as the hindrance always seems quite out of proportion to the time actually taken up by the necessary watering, shading or ventilating.

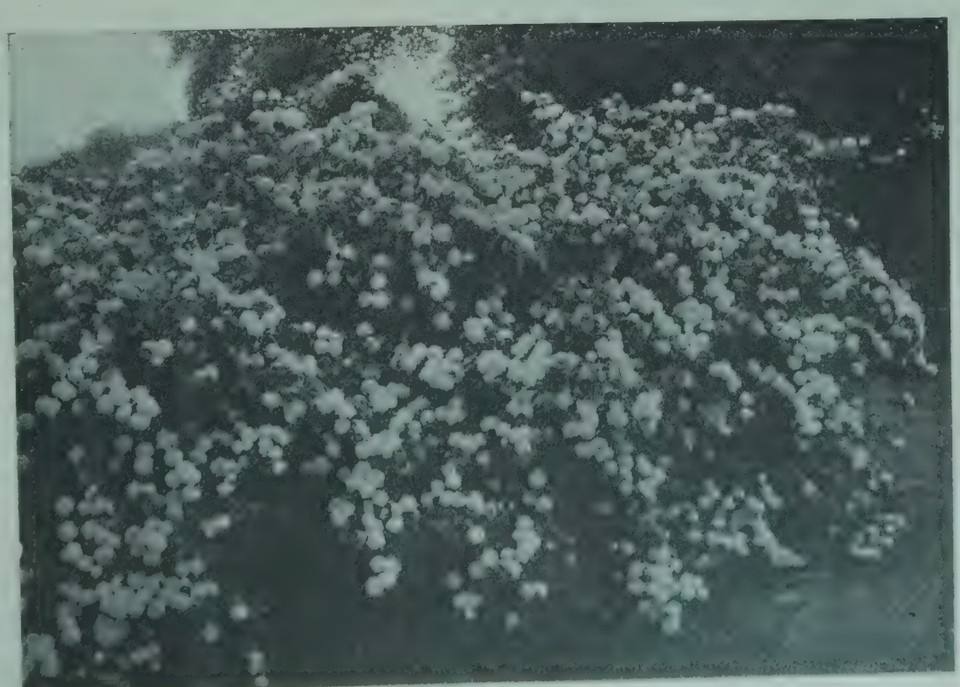
A National Daffodil Society?—It is probable that things may progress a little faster with regard to the proposed N.D.S. now that the first note of opposition to the proposed scheme has been sounded. Theoretically, Mr. Bliss' idea, outlined in our Correspondence columns last week, is far in advance of any scheme for changing the name of the Midland Daffodil Society, but, in the ordinary routine matters of everyday existence, theories do not always work out in practice. This must not be taken to express a decided opinion either way as to the proposed constitution of the Society. Far more important, it seems to us, is its constitution and objects when formed. The proposed meeting at the time of the Forced Bulb Show suggested in Mr. Jacob's letter in to-day's issue should settle matters up satisfactorily, but it is important that the air should first be cleared by as wide an interchange of views as possible. These views should include those of the great Daffodil-loving public on whose support the success of the new Society must largely depend. It is their views on this important matter that we have been and are still hoping to print. The question of a room for the meeting is surely a small matter. It is not always easy to obtain the use of a committee-room at Vincent Square—they seem to be in demand—but in any case an adjournment could surely be effected to some near-by and convenient venue. The views of members and committees of Daffodil societies other than the Midland Society do not seem to come to hand. Are we to take it that silence gives consent?

Co-operative Advertising.—The dummy bulb-growers' advertisement on the "Notes of the Week" page in our issue of the 12th inst. appears to have revived the somewhat moribund campaign in the trade Press for co-operative advertising for the horticultural trade as a whole. The word moribund is used advisedly and without intention in any way to reflect on the Editors of either of the leading trade papers, whose efforts to systematise the British horticultural trade are worthy of all praise. "Co-operative advertising is a feature of the horticultural trade in U.S.A. Why should not it answer here?" is their very natural viewpoint. The British trader, however, is proverbially conservative—we had almost written lethargic—and so, leaving the wider field to the trade's own Press, we shall be well content if we can persuade the bulb industry to adopt our point of view.

British Bulbs.—With reference to the letter under the above heading in our issue of the 19th inst. over the signature "G. C.," it is only fair to British bulb-growers to state that we have heard from the firm concerned, who plead that they sinned in ignorance and, at the same time, candidly admit that the bulbs were of foreign origin. We hasten to clear the industry from the smirch which we felt all along ought not properly to rest upon its escutcheon. It is sincerely to be hoped that the industry itself will take such steps as will save it from unwarranted aspersions.

Silver-leaf on Plums.—This disease, judging by what we hear from the trade and by the frequency with which affected shoots are sent to us for diagnosis, must be on the increase. No doubt when it has got so great a hold that Plums and Cherries are no longer worth cultivating, the Ministry of Agriculture will wake up and enforce the root and branch destruction of all infected trees. There is no excuse for slackness. Unlike American Gooseberry-mildew—which, before the Board (as it was then) could turn in its sleep, had got such a hold that it was hopeless to attempt entirely to banish it—Silver-leaf could readily be stamped out if the destruction order were effectively enforced. It would, of course, entail extra work for the poor farmer, as the Blackthorn is one of the trees most frequently affected. This is, however, a most unsatisfactory hedge plant, so that if the farmer stocked every plant he had he would be doing himself a good turn in the end. If the Ministry's Inspectors had but instructions to turn their attention to Silver-leaf and leave American Gooseberry-mildew to the growers, who could be trusted for their own sakes to treat it in every way possible, we should begin to think that the Horticultural Branch of the Ministry might, after all, be of service.

The Wayfaring Trees.—Despite a generic similarity in their flowers, there is much diversity of appearance among the genus Viburnum. They may be grouped—somewhat roughly it must be allowed—into four classes, of which our native Wayfaring Tree (V. lantana), the Laurustinus, V. rhytidophyllum and V. tomentosum, may respectively be taken as typical. The Laurustinus is invaluable as a winter-flowering shrub. Rhytidophyllum is more remarkable than beautiful. Lantana, if it were exotic, would be in great demand, being beautiful in wood, foliage, flower, fruit and for its autumn colouring. Being indigenous, it is left for the most part to adorn the hedgerow. V. tomentosum and its spreading variety plicatum, which we illustrate, are shrubs with a quiet distinction and simple beauty not striking but of real worth.



QUIETLY BEAUTIFUL. VIBURNUM TOMENTOSUM PLICATUM.

CREEPERS AND ARCHITECTURE

The use and abuse of creepers and climbers on buildings and elsewhere. Suitable varieties for various purposes; their disposal and training.

THERE are few questions so controversial as that of what is sometimes known as overgrowth. There is a large class of people who strongly object to close-growing creepers, particularly Ivy, at all on buildings. There is a class almost or, perhaps, quite as numerous whose whole intent seems concentrated on smothering up any buildings of which they may have possession. Without any desire to be dogmatic, it can with confidence be stated that both schools are mistaken. There are few houses which are not improved by a certain amount of draping with creepers. The other school of thought may more truthfully plead that many houses should be disguised as far as possible! It is nearly as grievous, however, to the critical and discerning eye to see beautiful age-mellowed brickwork disfigured by a thick mat of creepers as to look on what too often purports to be "restoration" of ancient work. "More evil," it is well said, "is wrought by want of thought" than of deliberate purpose, and much overgrowth, no doubt, has taken place gradually and all but unnoticed. It behoves everyone, therefore, to make up his mind just how far each building needs draping and to see that the living drapery is kept down to the right amount. It must always be borne in mind that the appearance of a wall is not improved by allowing Ivy to overgrow it and then tearing it down. There are many people who admire Renaissance architecture and think the most indifferent specimen should display every moulding unsoftened by greenery. Their view is quite understandable, though the writer, never an admirer of Renaissance work, would wish much of it screened from sight. There is the famous (or notorious) case of Chiswick House Bridge, which is shown on this page, covered in greenery, and on page 605 stripped bare. Everyone will agree as to the beauty of the arch line. Any simple and secure arch is beautiful in whatever school. Whether, however, one thinks the bridge better covered or bare depends on one's taste in architecture, so that here the *pros* and *cons* resolve themselves into matters of individual taste. At the risk of appearing a Philistine the writer prefers the view in which the supposedly decorative urns are hidden!

To speak of matters less controversial, there are many houses, especially in the Home Counties, built of very ugly bricks which it is kindness to hide. It may here be fittingly pointed out, therefore, that, whatever may be said against Ivy as an obliterator, it has no deleterious effects on the fabric of a sound structure; indeed, it must be admitted that by keeping walls dry it often renders distinguished service. Ivy is, when all is said, a more seemly cure for a damp wall than is the cement face sometimes seen.

It may, perhaps, be of service to make a few suggestions as to suitable climbers for brick and stone walls respectively. Used in moderation, Ivy is equally suitable for either; allowed to obliterate, instead of adorn, it is ruinous wherever there is any beauty of form or texture worthy of preservation.

Clematis montana, if carefully pruned and trained, is suitable for brick or stone. If it cannot receive regular and skilled attention, it should not be employed for this purpose. The pink-flowered dark-foliaged form montana rubens is in itself very beautiful, but it shows to small advantage on brickwork. For stonework—especially light-coloured stones—it is admirable. For similar reasons pink Roses look better against stone or plaster than against brick. The same applies to a lesser extent to crimson Roses. The purple-leaved Grape (Vitis vinifera purpurea) and the many other forms of Vitis, including Ampelopsis, associate well with any form of building construction, but many of them, of course, need careful tying and training. The small-leaved Ampelopsis (A. Veitchii), though

THE BRIDGE AT CHISWICK HOUSE AS IT LOOKED WHEN SMOTHERED WITH IVY.

ery beautiful, especially in autumn, is apt, unless arefully tended, to smother architectural features lmost as badly as Ivy. Much faster in growth ven than Irish Ivy, it has, too, an unfortunate abit of dying suddenly away when covering great reas of wall space. If one thinks of the shades f colour usually met with in house walling, it vill become apparent that flowers of mauve or urple tones will suit anywhere, so that practically ll the Ceanothus family (except the pinkish orms of azureus, which most people do not much are for at all) will be delightful on a south or west wall. The characteristic growth of the Wistaria revents it masking to great extent the architecture, so that the mauve forms of either sinensis r multijuga are very desirable anywhere, as are the white, mauve and purple large-flowered Clematises. Punica Granatum (the Pomegranate) looks best on stone, but is not to be despised on brickwork. The black-green foliage and brilliant berries of the old Pyracantha are welcome everywhere. As a wall tree this is preferable to its orange-berried variety Lalandei. The suitability of Pyracantha Rogersiana, or any forms of it, or P. Gibbsi for wall drapery is still a matter for experiment, but their growth is less sturdy and their foliage less solid in effect than the old well loved plant. Such things as the Loquat owe their value to their rarity and difficulty rather than to their intrinsic beauty. Almost any Magnolia is handsomer in foliage, far handsomer in flower. In the mild climates of our seaboards

THE SAME BRIDGE STRIPPED TO EXHIBIT ITS ARCHITECTURAL FEATURES.

that beautiful evergreen climber, Solanum jasminoides should be used. It needs careful trimming, however, or its rapid growth will soon obscure features which should be visible. Some of the slow-growing silver-variegated Ivies contrast charmingly with warm brickwork providing, of course, that a sufficiency of brickwork is left to afford the contrast!

A PAVILION ADORNED WITH VITIS VITACEA.

To sum up, house creepers are good servants, bad masters! When Ivy is used to screen the obscene or the pitifully derelict it is being put to good purpose. Where it is turning a house of character or distinction into a wall of greenery "bitten" away to show glazed apertures it is being grossly abused. To regard the matter from yet another standpoint, where it is being used to cover walls which might well produce crops of valuable fruit on handsome trees it is a source of wilful waste!

There are houses, now bare, and some of them in the very latest style of architecture(?), which would be better covered—smothered, perhaps, would be a better word. On the other hand, there are, unfortunately, many thousands of houses and other buildings of all shapes and sizes, and some of them with very little claim to architectural interest, which have a natural beauty of form and material quite obliterated by neglected overgrowth.

It is not necessary to confine the question of overgrowth to houses nor even to buildings or objects of architectural interest. Attention was called on the "Notes of the Week" page only a fortnight ago to the simple beauty of Lichen-clad rough stone walls. The Fern-spangled limestone walls of North Wales covered sufficiently to prevent bareness or monotony, strewn lightly enough to avoid concealment of the character and form of the walling, present an ideal worth striving for. Just as a rockery never looks so well as when the stonework is more sensed than seen, so a dry stone wall appears to best advantage when its character is never in doubt. It should be used to retain ground, not as a pseudo-rockery to be smothered with trailing plants. Nothing looks finer than a few brave clumps of purple Aubrietia on such a wall. They seem to have sown themselves An heterogenous mixture of various strong-growing rock plants, many of them, probably, crude in colouring and packed almost as thickly as possible all over its surface, gives an effect as "spotty" and unlovely as one could well imagine.

Yet another instance of overgrowth and one too frequently met with is the smothering up of the trunks of really beautiful trees by climbers of various kinds. The trunks of most trees are of great beauty, a fact especially noticeable in winter, and it is a great pity for the sake of a little extra colour when colour is plentiful, to sacrifice real beauty at a season when beauty is scarce. A similar abuse of beautiful trees may be mentioned though it has little to do with overgrowth. This is the mounding up of the butts of the trees with infantile rockeries or other such abortions or the burying of them under a foot of soil to make graceful contours for lawns and such like. This last was a notable failing of a very well known garden architect now dead. By it and the graduated contours of the lawns on either side of entrance drives, his work may readily be known! A tree without its butt is like a column without a base, better far better to make the tree grow

The Aralia Family from a Garden Standpoint

Follows a short account of some of the more noteworthy species and varieties of an effective and striking group of plants.

IN England the Araliaceæ have but one indigenous genus, and that represented by but one species—Hedera Helix (English Ivy. It is scarcely necessary to dwell on the change of habit which accompanies maturity with this remarkable climbing plant. It does not, however, seem always to be realised that all Ivies have an adult habit as distinct from the juvenile climbing one; nor does it appear to be recognised by all gardeners that the adult stage may be propagated from cuttings either of the half-ripe wood with the aid of a little bottom heat or of fully ripened wood, even in a cold frame. The former method usually gives the better "take."

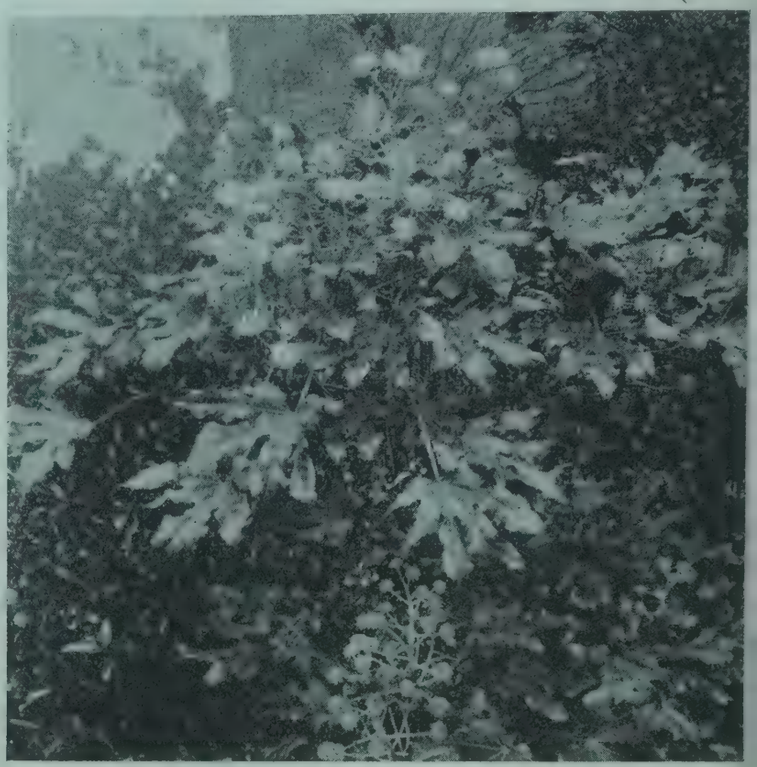
The Aralia family vary very considerably in habit of growth and general appearance, but one need not be a botanist to recognise every member as an Araliad if one can but see it either in flower or fruit. Of the genus Aralia but two species figure in the "Kew Hand-list of Hardy Trees and Shrubs." These are A. chinensis—often met with in gardens as Dimorphanthus mandschuricus—and A. spinosa (the Angelica tree). These two species are much alike and as grown in gardens are usually identical! as chinensis is in England usually supplied for spinosa. A. spinosa is, as one would suppose, more heavily armed with prickles than its Asiatic "colleague," while its leaflets are less downy beneath and—perhaps in consequence—more glaucous.

According to "Bean," Aralia (Dimorphanthus) mandschuricus is a variety of the typical chinensis. It is, he says, "downy only on the veins and midrib beneath; more sharply toothed; hardier than the type." This is probably true; if so, most plants of sinensis as supplied are, in fact, var. mandschuricus. The Araliaceæ are remarkable for their tendency to clear and beautiful variegation, and the golden and silver forms of A. chinensis are among the most beautiful variegated display plants we have. The silver variegated form is well shown in a picture of Acton Burnell rectory garden in our issue of October 15th, page 512.

FRUITING SPRAY OF ACANTHOPANAX SETCHUENENSE.

Fairly closely related is the genus Acanthopanax, of which nine species are recorded by Bean. The plant illustrated, A. setchuenense, was introduced by Wilson in the early years of this century. Its black Ivy-like fruits are characteristic of the genus, but the trifoliate leaves render it distinct, as does the absence of down. Other species with three or five lobed leaves and, though distinct, are somewhat similar in appearance, are Simoni, leucorrhizum and Henryi. These are rather smaller growers than A. setchuenense. Very different is A. ricinifolium, sometimes met with in gardens as A. Maximowiczii, which in Japan, its native habitat, grows to a considerable tree. It does not appear to flower in Britain, and is not altogether hardy, especially after cold wet summers; but its huge five or seven lobed leaves are very remarkable. A. sessiliflorum is a uncommon Asiatic species, though not of very recent introduction. It forms a large spreading bush and fruits freely. It is probably the hardiest species.

Closely related to Aralia, with which it was once confused, Fatsia japonica (Aralia Sieboldii) is a very popular greenhouse and room plant. It is often miscalled the "Castor-oil Plant." It stands quite well in a sheltered corner anywhere in the Home Counties. Our illustration shows a plant flowering this year in a mid-Sussex garden at the end of November. The sharp spell of frost had apparently had no detrimental effect on the blossoms. Frequently, too, it sets seed outdoors, but only a small percentage of the blossoms as a rule get fertilised. Fatsia horrida is a particularly spiny deciduous shrub with scarlet fruits. It is not recommendable for British gardens, as, owing to frequent damage by late frosts, it is seldom seen in flower or fruit outdoors.



FATSIA JAPONICA IN FLOWER TOWARDS THE END OF NOVEMBER.

Most Araliads may be propagated by cuttings in a little heat, but the Devil's Walking Stick, as Aralia chinensis is often called, is most readily propagated by root cuttings. It is a shallow-rooting tree, and if the ground around is cultivated with the spade many roots will be more or less cut if not entirely severed. A crop of offsets may be expected to spring up wherever the spade has cut the roots. All species may, of course, be readily raised from seed if these are procurable.

There are, admittedly, situations in which what is popularly called sub-tropical gardening, is most effective. This effect has usually, in the past, been obtained by planting out for the summer various annual foliage plants such as Ricinus, together with specimens of the hardier Palms, Cordylines, and such like. It is, however, really unnecessary to use half hardy species to produce the desired effect. Of desirable hardy sorts for the purpose the before-mentioned Araliads are as suitable as any. They may be associated with many species of Bamboo and Yucca, with the Indian Bean (Catalpa bignonioides) and the Tree of Heaven (Ailanthus).

ARTIFICIAL MANURES FOR WINTER USE

Fertilising Agents which have Caustic Properties should be Applied at Once.

ALTHOUGH artificial manures are chiefly used during the growing season, the fact that there are several which it is better to apply during the winter months should not be overlooked. The most important these is basic slag. Many gardeners appear to xpect good results by applying this in March. t the end of the season they grumble that there re no good results to show for the dressing. s a fact, basic slag ought to be put on very early autumn. It is not yet too late to apply it, but nless it is done at once the results of the dressing ill not be apparent next season, though it will ltimately take effect.

Basic slag is a favourite dressing for lawns, hough it encourages Clovers and Trefoils, but it hould be used much more largely than it is in he garden both for flowers and vegetables. It s an excellent mild phosphatic manure. The nore finely it is ground the more effective is it, so hat it should be bought not merely on a percentage f phosphates, but also on a basis of fineness of rinding. Of good brands 85 per cent. or 90 per ent. will pass through a sieve 10,000 holes to the nch. To apply it use from 4 oz. to 8 oz. per quare yard.

Another useful manure for winter application s known as cyanamide. It has many trade names, ut the chemical basis of it is a combination of alcium, nitrogen and carbon. To apply this during the growing season is often fatal, as in contact with the soil ammonia is often given off which is, of course, a powerful alkali. Certain chemists have tried to prove that ammonia is directly absorbable by plants, but this is certainly not the case with a bulk of uncombined ammonia such as is given off from calcium cyanamide. Care should therefore be taken to apply it in good time and in moderate doses. A dressing at the rate of 2lb. per square rod is ample. It may be noted that in using calcium cyanamide no further dressing of lime is required. This manure is, therefore, greatly preferable to sulphate of ammonia —of which the commercial form has an acid reaction—applied in spring.

An important source of potash manure is found in flue dust. This, too, should be applied as soon as possible on account of certain compounds it contains harmful to growing crops. These are, however, useful for disinfecting the soil, and if the fertiliser is applied during November or December soil pests are killed, and the potash it contains is then ready for the absorption of the plants as soon as they start into growth. Flue dust is an "artificial" that can very easily be overdone. On certain allotments in my district an over-dressing of the material rendered a number of plots absolutely sterile for a whole season. A generous dusting of each trench will, however, be a perfectly safe dressing.

A little known fertiliser is found in green vitriol (iron sulphate). This is not much used on account of its poisonous properties, but its judicious application in small quantities will prove beneficial. Not more than 2lb. per square rod should be applied, and the earlier in the season it is dug into the ground the better. Care should be taken to get only fresh iron sulphate, and to keep it until needed in tightly corked glass bottles. This compound rapidly changes in contact with air and moisture, and the resulting chemical is not nearly so safe for application to the land. Green vitriol usually comes in large crystals, and these should be finely crushed before being scattered sparingly on the ground at the rate above given. This is occasionally used to bring up the colour of flowers. It should for this purpose be applied very sparingly and in solution.

A material that has for long been difficult to get until quite recently is kainit, which comes from the German mines at Strassfurt. It is one of the most valuable potash manures there is, but it must be dug in during the winter. Its composition is somewhat complex, but it usually contains salts of magnesium and sodium, besides potash. Sometimes it contains iodides, which are very detrimental to plant growth. It is essential, therefore, that it should be got on the ground not later than the end of December. Anything undesirable will then be washed out of the soil by the winter rains.

A point to note about kainit is that it is somewhat deliquescent, so that it should be stored in a dry place, preferably in tightly lidded tins. About ¼lb. per square yard is a safe dressing. If the material arrives in hard lumps it will be necessary to borrow a rolling pin from the cook, choosing a day when this important functionary is in a good temper. With the rolling pin the lumps are finely crushed, and the material can then be distributed on the surface of the soil by hand.

Returning now to lime compounds, most of the proper compounds are used during the growing season, and gaslime (not being an artificial fertiliser exactly!) is outside the province of the present article. One more must be named, however, and this is found in sulphate of lime or gypsum, which is used to some extent as an artificial fertiliser. About ½lb. per square yard is the best amount to apply, and here again the material should be very finely powdered before being scattered on the ground.

Two magnesia compounds are used to a small extent as artificial fertilisers in winter, and on light soils they should be much more used than they are, as they help in the matter of conserving moisture. They are magnesium carbonate and magnesium sulphate, the latter popularly known as Epsom salts. Care should be taken not to overdo the use of either, as in excess they are poisonous to plant life. [Some chalky and limy soils contain too much magnesia already.—ED.] From 2lb. to 3lb. per square rod of either is the best amount to apply, the smaller amount if the very bulky, light carbonate is used.

The corrosive carbonate of potash should certainly be applied during the winter. Disastrous results have followed the use of this chemical by amateurs, who had fondly imagined that it was a valuable fertiliser for use during spring and summer. Applied in winter, however, its corrosive nature is toned down if not altogether done away with, and the potash in it is available for immediate absorption when required. From 2 oz. to 3 oz. per square yard forms a good winter dressing.

Common salt is little known as a fertiliser. It, too, is sometimes used with disastrous results, and should be applied with extreme caution in the growing season. Applied in December, however, to all soils except those which are very sticky or heavy, it is exceedingly useful. In many cases a dressing of salt will almost entirely obviate the need of a dressing of potash manure. Salt, as has often been stated, is exceedingly useful on ground affected with clubroot disease, and the combination of lime and salt seems to be the only practical cure for this very terrible malady. Not more than 2lb. to 3lb. of salt should be used per square rod, though if the material is the very coarse agricultural variety the higher amount can be safely applied without any risk of damage.

As practically every gardener knows, superphosphate of lime should only be applied during the growing season. There is a form of it, however, known as basic superphosphate, and with this I couple another artificial manure generally sold under the name of raw phosphate, which can only be applied with beneficial results during the winter. These two materials resemble basic slag in their action, and are very slowly soluble. Thus they take a very long time to become available for plant food, and if it is intended to apply them, they should be forked into the ground immediately. Generally speaking, they are very cheap, and absolutely innocuous as artificial fertilisers go. They may, therefore, be applied generously without the slightest anxiety. The most useful dressings to apply are from ½st. to 1st. per square rod. As basic "super" often arrives in a lumpy condition, and as the natural condition of raw phosphate is fairly large nodules, care should be taken not to apply them to the ground until they have been very finely ground or pulverised, otherwise little beneficial result will accrue. E. T. ELLIS.

The Fig Gardens at West Tarring

In view of the correspondence which has recently taken place with regard to the Fig Tree outdoors, the following should be of interest.

BEING at Worthing, where so many Figs are grown, in the open, I was naturally, much interested in the matter appearing recently in THE GARDEN. about Fig trees outdoors. At West Tarring, within a few minutes' walk from West Worthing Station, the most ancient Fig garden is to be found adjoining the Bishop's Palace. In "Lower's History of Sussex" the writer states: "Hither Thomas à Becket is said frequently to have resorted, and to have planted figs near the house. The Fig Orchard adjoining it was raised from some old stocks in the rectory garden. It was planted in 1745 and contains 100 trees which produce about 2 thousand dozen of the fruit annually. This is probably the largest plantation of Figs in England. It is a curious fact that a bird resembling the Beccafico or Fig-Eater of Italy migrates hither during the fig season, the flock remains five or six weeks and then disappears, as it came—seaward." Loudon writes that "at Tarring in the largest Fig-Garden there are 70 standard trees from 12 to 15 feet high."

On visiting the ancient and historic garden this week I found it well stocked with Fig trees, and among the old ones were some that were only planted about ten years ago. The central path, which is a Fig tree avenue, is 250ft. in length.

Unless the Romans grew Figs in their villa gardens in England, it is said, the first Fig tree in this country was introduced by Thomas à Becket and planted by him in this garden at Tarring in *c.* 1162. Although much decayed, wonderful to relate, this ancient tree is still living. The variety is known as the Honey Fig, the fruit of which is very sweet and of ordinary size. It has white flesh, and the leaves of the tree are of the usual three-point type. The smaller Button Fig is also grown. The fruit is smaller and not so sweet as the Honey Fig, and the three-point

leaf is a richer green and more glossy. The common Brown Turkey Fig, with the three-point leaf and fruit with rich crimson flesh, is also largely grown. The rarest variety to be seen in the Tarring garden is the Madagascar Fig, which has a five-point leaf and bears the largest fruit of any known. It has pale pink flesh and sometimes weighs as much as half a pound. A few years ago a first prize was taken for Figs grown here, when a dish of six fruits was shown, each of which weighed over half a pound.

None of the trees grown can rightly be termed standards, but they are not trained or grown upon the wall. They do not require pruning, and the fruits which ripen are those which form in the spring of the same year. At the present time many of the trees are bearing small immature fruits from belated blossoms, but it is very rarely that these survive the winter to ripen in the coming year.

Until recently this ancient garden was in danger of destruction, but readers of THE GARDEN will be glad to know that it has just been purchased by the proprietors of the *Worthing Gazette*, in whose hands it will be carefully preserved and cared for. Being also members of the Sussex Archæological Society, no effort will be spared by them to retain all the memories which remain of the martyred archbishop and his garden.

H. H. WARNER.

AUTUMN COLOUR

Some of the most beautiful effects in group planting can be obtained by the use of those shrubs which in autumn assume tints of red or yellow or even pink.

OUR climate is not, as a rule, completely suited to producing such effects as are to be seen in Canada and some parts of the United States, but at times we get very beautiful effects not only with trees and shrubs from abroad, but from our native species—sometimes, perhaps, the more beautiful for that reason. What, for instance, can be finer than a Beech wood in the Chilterns or the Birch on a Surrey Heath. Oaks, too, at times are wonderful in their autumn brown. These, with the Bracken and the berries of Holly, Yew and Hawthorn present a picture of great beauty. But we are not confined to native plants; we have a wealth of others which primarily may be used for other purposes, and which, when the season is favourable, astonish us with the brilliance of their colouring.

The Japanese Maples are probably the most consistent in giving their added charm to their already beautiful character. Some will turn from purple red to brilliant scarlet, others to an almost fleshy pink, while some of the green forms give us both red and yellow, and occasionally a rich orange which, in the sunshine, is a positive delight. American Oaks and particularly the true Scarlet Oak, Quercus coccinea, are very fine, and this tree, with the Sumach is always brilliant in a good year.

The writer is fortunate in possessing a few trees of this species raised from seed gathered in the State of New Hampshire from a tree said to be one of the best for autumn colouring in the States. Some of these trees have been distributed, and good reports have been received of their beauty. The various Sumachs are nearly always good, and particularly Rhus Osbeckii in tree form, and Rhus cotinoides. The Berberis family, in addition to their many attractions, are fine in autumn tint, and the turn of the leaf, together with the fruit, makes them a valuable asset in any garden. They have the further merit of not being very particular as to soil and, consequently, can be introduced into most gardens.

The writer may be classed as a crank on Berberis and believes that when some of the most recently introduced species from China are better known they will loom largely in every planting scheme. The collection of Hybrid Berberis recently shown at the Horticultural Hall, raised at Wisley Gardens, must have been a revelation to many present. Cotoneasters as berry-bearing plants cannot be overlooked for autumn effect, and in certain positions—such as on a dry bank or in rockwork, or as climbers against walls, their foliage takes on many delightful tints.

Some flowering shrubs, Spiræa, Guelder Rose, Dogwood, Pyrus nigra, P melanocarpa, Viburnum cassinoides, &c., are very fine and, perhaps, none is more beautiful of this class than Spiræa Thunbergi.

Euonymus alatus is one of the few plants turning to a pink shade. This is undoubtedly one of the most beautiful, if planted in a sunny position where full maturity can be obtained. A plant of this, some 6ft. or 8ft. in height, remains a picture for quite a long spell and is unique in tint.

Euonymus yedoensis, the Chinese Spindle tree, is very good, both in foliage and fruit. Vaccinium pennsylvanicum is a grand plant for this purpose, but is particular as to soil, loving a deep sand as well as anything.

The writer once played golf at Pine Wood, New Jersey, where the soil is sandy, but of a very poor nature, and the fairway has been cut through a natural country of Red Oak with Vaccinium pennsylvanicum forming a scrub growth, and now the Oaks have been cleared and the undergrowth exposed. Bad golf could be excused on this occasion. How could one putt after looking at the dazzling colour of the undergrowth! The soil there being very poor, Vaccinium pennsylvanicum could not grow to more than about 1ft. in height, but seemed to colour more finely through the very poverty of its surroundings. It was also of interest to note Kalmia latifolia thriving there, and after having been burnt over, as we burn Heather in Scotland, the plants were covered with seed and must have been a lovely sight in the spring.

It is worth noting that position in planting and exposure are important if the best results are wished for in autumn tints. Note, for instance, how Mahonia Aquifolium on a dry bank takes on an infinite variety of shades of red and bronze, while on moister ground or better soil no effect of colour is to be seen, and this applies to most plants. Maturity of growth would seem to be the chief point to aim at, and this past summer has given that with a vengeance, and, in consequence, autumn tint has been very good save where the drought has been too severe.

In a short article it is not possible to do more than touch the fringe of this subject. A catalogue would be necessary to do it justice. One would like, however, to impress upon the intending planter the wonderful possibility of converting what might be termed a spring border of planting into an equally interesting one in autumn tint. One may go a step further and introduce some of the beautiful plants with their wonderful coloured bark and add their charm to the border for winter effect. Doubtless this has been done many times, but the writer is quite certain that many shrubberies, borders and belts of shrubs and trees are planted without any real idea of eventual effect.

F. GOMER WATERER.

SPRING REMINDERS

Being a description of some springlike flowers that bloom in autumn and a suggestion that their number might well be increased.

WHEN the lights of flowerland have passed from the brilliance of summer, through the sunset colours of autumn foliage to the starlight of winter days, every plant which contributes to the outdoor display becomes the centre of increased attraction and significance. The power of a plant to stir the memory and imagination is naturally greater the fewer competitors it has to distract attention from it. This accounts for the pleasure caused by the appearance of the first Snowdrops and Crocuses and by the scent of the Mezereon. Characteristic harbingers of spring though these are, it is not necessary to wait until that season to enjoy the message they bring. Some have representatives which flower normally in autumn.

The writer was reminded of this recently when, in walking round the garden, he came upon the first flowers of Galanthus Olgæ. This Snowdrop usually appears about the first week in November when the trees are almost stripped of their leaves and frosts are making themselves severely felt. A few paces further on was a plantation of Daphne Blagayana—one of the best of the family and particularly suited to a rock garden owing to its prostrate habit. The occasion was several months in advance of its flowering time, but the air was full of what was strongly reminiscent of its welcome fragrance. The source, however, was not a Daphne, but Eleagnus macrophylla in full flower on the opposite side of the path. For creating such an illusion the shrub well deserved its place; but it has other interesting features of its own. The under sides of its tough evergreen leaves are of a silvery grey hue which would entitle the plant to a place among grey-foliaged shrubs. The dark green upper surface of the leaf is flecked with scales of the same colour. Under the microscope these have a remarkable appearance, each one resembling a miniature six-petalled flower, with fringed edges. The small, round bracts under each flower cluster look as though they were made of tinplate covered with aluminium paint, through which numerous points of rust have appeared at regular intervals.

Another well known, spring-like autumn flower is Colchicum autumnale, of which the double white form is particularly effective in the rock garden. This genus may be regarded as the representative of the Crocus at this season.

Spring and autumn are the only two seasons which are in any way parallel and between which a certain interchange of flowers might take place without incongruity. One would not wish to see the winter light of Hamamelis mollis eclipsed by a June sun, or Primula Winteri contemporary with Dianthus dependens. On the other hand, Cheiranthus Allionii is a worthy November representative of the Wallflower family. Further, as, in winter, little things count, mention may be made of the continuous link between the two seasons formed by the dwarf violet-cress, Ionopsidium acaule, to which reference was made in THE GARDEN last year.

This aspect of the flowers mentioned suggests that there may be others equally well suited by

rm, colour or scent to the production of a fore-
ste of spring in autumn. If it be objected that
is would be an attempt to take the crown from
ne former and bestow it on the latter, may I
oint out that it is rather an endeavour to extend
ne domain of each so that they may reign in joint
overeignty? The determination of the gardener to
vercome the dulness of winter indoors is seen in the skill devoted to the cultivation of such a winter flower as the Chrysanthemum. Though such spectacular triumphs cannot be expected outside, efforts on similar lines are in accordance with a principle which underlies progressive gardening and which may be expressed by a slight variation of a familiar phrase: "Light and shade by turns, but *charm* always."

A. E. SIMS.

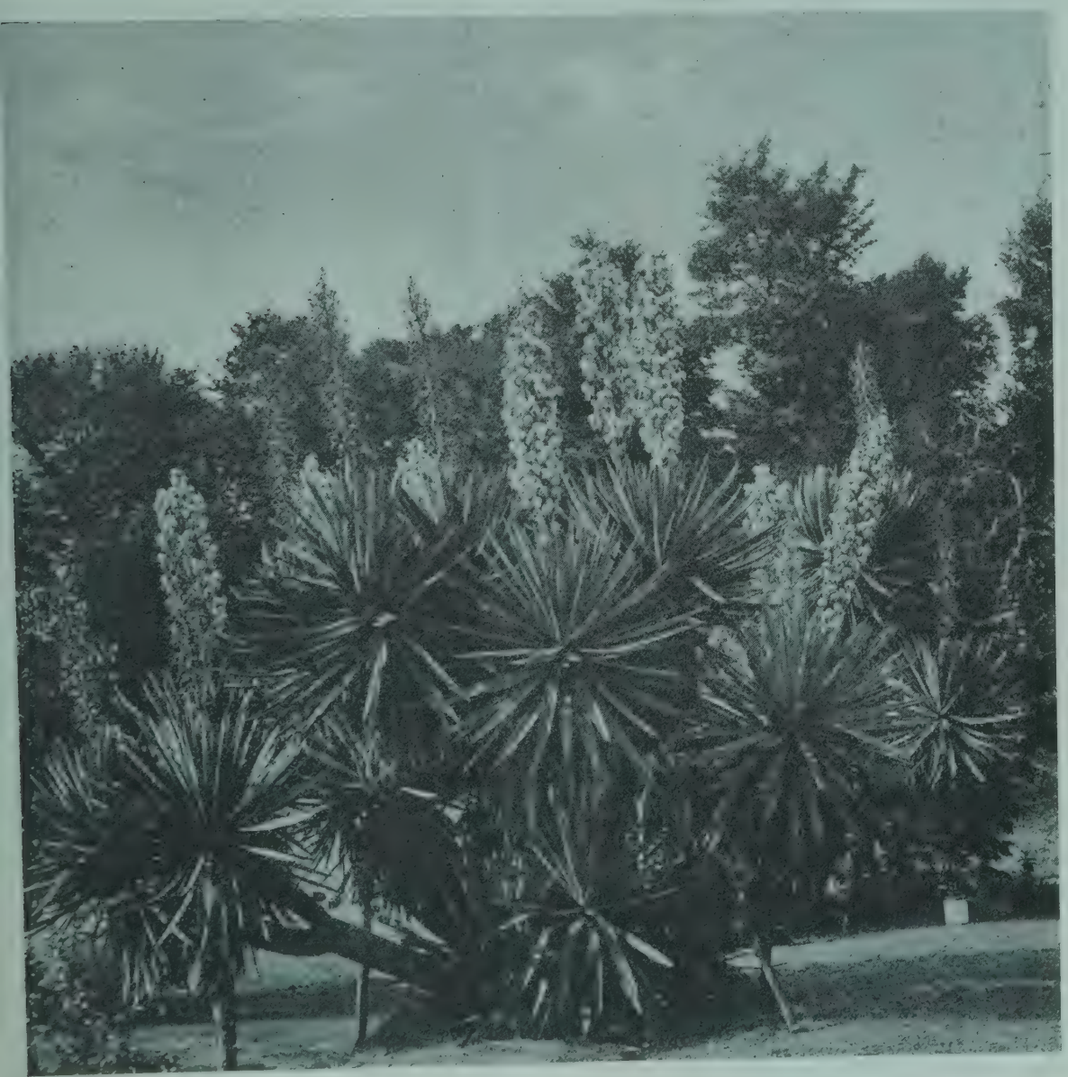
THE FORMS OF YUCCA GLORIOSA

THE late hot summer has brought Yucca gloriosa prominently into notice again, and many people are realising for the first time what a noble plant it is, so that I think a few notes on its varieties may be of some interest. Roughly speaking, there are five varieties known to me, two belonging to Y. gloriosa type and three that are more akin to Yucca recurva. There is no doubt whatever in my mind that the narrow leaved and bright green Yucca gloriosa is the best and finest form, but it is late flowering and cannot be depended on coming to perfection save in hot seasons and sheltered gardens. It may be known by its pointed pyramidal spikes and spotless cream-coloured flowers and buds. Its habit also is more tree-like and branching than any other. The plant most familiar to me in England has broader and much less pointed leaves of a less vivid green, and the flower spikes are shorter and stubbier than the type—altogether a less elegant thing.

On the other hand, Yucca g. recurva, with its pretty drooping foliage and fine branching spikes of flower, has the advantage of flowering quite six weeks earlier; but the buds and the backs of the petals are heavily stained with brown, which greatly spoils their beauty unless one can catch them wide open some warm moonlit summer night. Its habit, however, is much more straggling and less branching, so that the long stems tumble about in an elephantine way that is quite ugly in some places. There is a very glaucous blue-leaved form that is very ornamental in its foliage, but the flowers are smaller than the type and very cupped in shape—decidedly less beautiful, in my opinion

The third and last form is, or looks like, a hybrid seedling between gloriosa and recurva and is especially free and early flowering, so that it is most suitable for northern gardens; but its buds and the backs of the petals are stained with brown, which spoils their purity of creamy colouring. The leaves of this form are glaucous and stiff, not recurved. It is, I fancy, a form that is, or should be, much grown in the northern districts where the Y. gloriosa type flowers too late. Its habit is less straggling and unwieldy than Y. recurva, but not nearly as robust and tree-like as Y. gloriosa.

Has anyone, I wonder, planted Mina lobata (Ipomœa versicolor) so that it can scramble up into the stems and flowers of Yucca gloriosa? I had the good luck the other day to see a big mass of Y. gloriosa with many spikes of flower with the brilliant flowers of this Ipomœa twining through it. The brilliancy of the one and the purity of the other made a most beautiful picture—one I shall hope to repeat myself another year, so that I can recommend it to others. E. H. W.



APTLY NAMED. A GLORIOUS CLUMP OF THE BEST TYPE OF YUCCA GLORIOSA.

"DARNING" A ROCK GARDEN

The "strands" needed should be included in the seed order.

WHEN the May and June beauty of the alpine garden has passed, its owner is usually left with a wide and unlovely expanse of dead flower husks which persists until much scissors work is done or the new growth gradually pushes off the outworn seed-vessels. In either case the aspect is unpleasing, the change from a riot of colour to a dreary waste of brown pods so early in the summer forming one of the standing complaints against this delectable method of growing flowers in the mass. Where Aubrietias, Dianthus, Saxifrages, Myosotis, Sedums, Thymes and a hundred other brilliant little blossoms kept carnival there follows an overlong period of dulness, enlivened by but few gleams of brightness as here and there a belated flower shines out amid the general decay.

How shall this "off season" in the rock garden be broken and the tide of colour be set flowing afresh during late summer and autumn? In my own small experience, which I have here set down with diffidence in pages usually reserved for experts, the desired effect is to be obtained by judicious seed sowing and setting out of seedlings among the established occupants of the larger pockets and ledges. These interlopers, if they are so regarded by any, live but for a brief season and can readily be pulled out when their day is past. They do not ramp, nor need they seriously trench upon the vested interests of the freeholders in this part of the garden. In the well regulated rock domain the plants do not overrun each other; there is usually some space between them, and here it is that the "darning" process finds its opportunity. Again, such plants as Forget-me-nots quickly drop their seed and become objectionally dead of aspect. They then cry aloud for removal, and when the call is answered leave behind them gaps obviously waiting to be filled It is sadly true also that certain "rockies" are prone to bloom their dear and dainty selves to death, or, worse still, to "go out" without flowering for reasons known and unknown. Here, too, are presented patches of soil which offer themselves to the "darner's" art. From one or other of the causes set forth there is always room for this interplanting; while few, I think, will deny the desirability of producing a [illegible]

blossoms upon the little hills and vales of the rock garden.

I have made bold to use the word "darn" to describe the process suggested, which at the best is one of patching, and in the result must needs be far inferior to the "exceeding magnifical" spring vesture of the alpines themselves. These are in possession of the ground and, among the rocks, at home. Their foliage and bloom masses constitute the true texture of the many-coloured carpet which for a few weeks in the year makes the rock garden a place of loveliness. But when the carpet wears into holes, when the very floor shows through, then surely it is fitting to introduce new strands of colour, fresh patches of brightness upon the dulness of the threadbare fabric. At any rate, the word chosen carries its meaning well on the surface, so let it stand, while I set down how the bare places are "darned" in my own modest valley of rocks!

Among the seedlings, Nemesias, Verbenas, dwarf Snapdragons and Cheiranthus Allionii play the leading part. The first three are, of course, of summer-flowering habit, while the rock Wallflower is one of those obliging species which never seems to stop blossoming from spring to autumn in one or other of its generations. It will be noticed that none of the four take abiding hold of the soil. All are shallow rooted and come away enthusiastically when their flowering season ends. But they share alike the merit of low growth and gallant colour; and, given careful selection among the Snapdragons, each species is beautiful and worthy to occupy temporary place among the soft cushions of the "rockies." The gardener of wider experience than mine will doubtless call to mind other of his seedlings which could be employed in the "darning" process with effect. I do but mention the plants which have proved of service in my own garden.

Now to tell of seeds which may helpfully be sown. Naturally, many of these have to "go in" early in the year, when it almost seems a liberty to interject other potential flowers amid the wealth of blossom then outspread upon the rockery. Good effects can be obtained by judicious sprinkling of Ionopsidium acaule, Mesembryanthemum tricolor and Leptosiphon androsaceus. But the seeds which have served me best, even if they are prone to produce rather too much growth, are those of Linaria maroccana. Late in the summer, in their infinite diversity of colour and grace of form, these flowers make the rock garden burst forth into new beauty. I love to see my tiny glades peopled with their dainty spikes, thronging upon each other in ever-varying hues. Again, the Salpiglossis shows to great advantage in the green setting furnished by alpine plants. These also are annuals which achieve a height of growth somewhat out of proportion to that of the "rockies," but how fine a background their foliage provides for the gorgeous brocade-like texture of these golden-veined flowers of August and September! Finally, I would mention the homely Nasturtium, Tom Thumb variety, which will impart a glow of scarlet all its own to any vacant ledge over which it may for a brief season be permitted to sprawl.

The reader will quickly recall other seeds wherewith to darn his own rock garden should he happen to share my opinion that this desirable portion of the home patch should not be suffered to pass both summer and autumn in the sorrowful eclipse of flowerlessness. We all strive to run a rotation of flowers in our herbaceous borders from the earliest bulbs to the latest Starworts. Why should the alpine garden have to content itself with but a single crop?

R. H.

THE NATIONAL POTATO SHOW

FOR three days, ending with November 18, the R.H.S. Hall was given over to Potatoes and their study. The revived National Potato Society had, on the previous two years, held annual shows in Birmingham. This year's conferences and show were very successful in everything except attendance. Delegates attended from various parts of the world; even that distant "Jewel of the East," India, was represented by a professor in turban and gorgeous raiment and contributed herbarium specimens of Potato plants and diseases. Papers were read and discussed by experts from U.S.A., Ireland and Great Britain, and these dealt with such important matters as Potato breeding and the most prevalent and destructive of the many diseases that lie in wait for the plant and create such havoc with the crops. There were exhibits of our best Potatoes and also many of the various scientific aspects of Potato cultivation, but very few of the general public came to see all these admirable things. In a measure this is not to be wondered at—it is a difficult matter to enthuse over cold, raw vegetables of any kind, and Potatoes are, except to the experts, the least attractive of them all. But it does seem lamentable that fuller advantage was not taken of the great opportunity for studying this most important of all vegetables with a view to understanding it better and so to increasing its yield and improving its qualities. For this object we should have expected to see at the show some of the many thousands of the allotment cultivators and small holders that live in the metropolis. That they did not come was not due to apathy, for we know full well how keen most of them are on their Potatoes. The reason is rather one that is far too common in horticulture, and that is ignorance of effective advertising. Had the National Potato Society brought this show before the notice of the right people the hall would have been packed. They must try and do better next time.

In a forceful speech the Minister of Agriculture, who opened the show on the Thursday, appealed for increased cultivation of the Potato, particularly at the expense of permanent pasture. The Potato is the one vegetable that is always in season and so is of immense importance. Increased cultivation of Potatoes would, Sir Arthur Boscawen said, mean that four times more labour per acre would be engaged than on corn, and, furthermore, would provide greater chances of increased profit. He welcomed the conference and show in that they provided splendid opportunities for studying the Potato and its many diseases. The show in particular fostered the English sporting spirit of friendly rivalry and was all to the good. He hoped that small holders and allotment cultivators would realise the immense value of their Potato crops and look out for new varieties in order to test them against the old, trying to discover improved qualities and yield.

A VERY HANDSOME NEW EARLY IMMUNE POTATO—SUTTON'S DUNVEGAN.

The customary thanks for opening the show were proposed by Mr. Lobjoit, who, referring to the great activities of Sir Arthur Boscawen, humorously charged him with violating the principles of the eight-hour day, an example, we may say, that is followed by very many of the Minister's subordinates. Remarking on the value of new varieties of Potato, Mr. Lobjoit said that cooking qualities must always be considered, especially by those who grow for market. The great popularity of the King Edward VII Potato was due to its being cooked easily—"the biggest fool of a cook could not spoil it"—while many other sorts were notoriously difficult to cook properly.

As regards the exhibits, nearly fifty competitive classes had been arranged and all of them carried

uite generous money prizes. In the classes for ngle dishes of six tubers the first prizes ranged om £3 to £1 5s., while in the collections they were om £6 for twelve dishes to £2 for three dishes. n these circumstances it was not surprising to nd that the competition generally was large—here were twenty-three dishes of Arran Comrade, wenty-two of Majestic and eighteen of Great Scot—nd the general quality high. A few exhibitors ad evidently overrated their tubers, and this was ost apparent in the half a dozen classes restricted o allotment holders and amateurs who employ o constant assistance in cultivating their gardens.

In the open classes Mr. R. Grigor of Dalswinton Gardens, Dumfries (who, by the way, is also an xpert Sweet Pea cultivator), achieved a great riumph by winning six of the seven first prizes, nd he had admirable tubers in every instance. His dishes of Purple Eyes, both types of King Edward VII, the Bishop, Arran Comrade and Majestic were nearly perfect. The best twelve dishes of distinct varieties were shown by Mr. J. Stewart of Mollance Gardens, Castle Douglas, N.B., whose tubers, though a trifle large, were even in size and of good shape. The second prize collection by Mr. G. Andrews, Venson Farm, Eastry, Kent, was composed of beautiful tubers, more of the size that would appeal to the judges at the R.H.S. Vegetable Show, and remarkably shallow of eye. The general high quality was also noticeable in the prize-winning single dishes of various varieties and types.

Many of the trade collections were arranged in as attractive a manner as is possible with Potatoes, and included large numbers of very high quality tubers. Messrs. Sutton and Sons included in their large exhibit, which was awarded gold medals from the R.H.S. and National Potato Society, forty immune seedlings which have been on trial at Ormskirk. The most valuable of these seemed to be Dunvegan, a handsome first early, pebble-shaped tuber, unusually large for a first early. The haulm is dwarf and robust, and it is said to be a heavy cropper of first-rate flavour. Two slightly differing types were shown. Both were of the same good shape, with very shallow eyes, and that one type had a rather more russet skin than the other was said to be due to its having been grown on a heavier soil. The large number of tuber-bearing Solanums and their crosses and the different varieties of Fir Potatoes were also very interesting.

In Perfect Peach Bloom Messrs. Dobbie and Co. had a quite fascinating novelty. It is a round, russet-skinned Potato, with a delicate pink eye. Their large pyramids of Majestic, Kerr's Pink and The Bishop were very imposing, while the baskets of Mr. Breese and Exhibition Kidney were also of excellent quality. This splendid exhibit won an R.H.S. gold medal and a N.P.S. large gold medal.

Many seedling Potatoes of very promising appearance were staged by Messrs. Webb and Sons, who were rewarded by a small gold medal and a silver Knightian medal. The baskets of Tinwald Perfection, Majestic and White City were also particularly good. The most novel Potato was the violet-eyed Catriona, which was prominent on the stand of Messrs. Kent and Brydon. Their King Edwards were also excellent.

The most important of the scientific exhibits was undoubtedly that by the Ministry of Agriculture, which occupied the annexe. There was displayed a wide range of varieties—mostly immune to wart disease—and many models of the principal Potato diseases. These are made of copper and are remarkably faithful reproductions. The case containing a model of the little understood "Mosaic" disease was an excellent piece of work.

In the body of the hall the most valuable exhibit comprised illustrations of Potato diseases and parasites from the Irish Department of Agriculture. These were all splendidly done and accompanied by concise explanations.

The illustrations of "Potato Genetics and New Colours Arising from Recombination" were no doubt very interesting to a few, but the value of obtaining a few tubers of fancy colours and poor type is open to question, and this remark also applies to some of the other exhibits of Potato hybrids which do not seem to contain anything of potential commercial value. On a different plane must be placed the collection of tubers raised from the late Dr. John Wilson's stocks by the Scottish Society for Research Work in Plant Breeding. These are of value. The bad effects of lime and chalk on scab in Potatoes was well illustrated by the exhibit from the University of Leeds.

From the herbarium specimens contributed by the Bombay Department of Agriculture it would seem that it is the Italian varieties which are most suitable for cultivation in India.

Splendid photographs of Potato tubers, also leaflets, were shown by Mr. D. Cuthbertson, and near by there were exceedingly interesting wax models of twenty-four of the varieties that were shown at the Great Potato Exhibition of 1851.

OBITUARY

MR. EDWIN MOLYNEUX, V.M.H.

MANY are the friends and acquaintances of the late Mr. Molyneux who will mourn his passing when they learn of his death at his home at Swanmore Park, Hants, in his seventy-first year. To all appearance hale and hearty, and carrying his years wonderfully well until

THE LATE EDWIN MOLYNEUX, V.M.H.

within a few weeks ago, his was a comparatively short illness before the end. He passed peacefully away on the morning of Saturday, November 12th, and was buried at Swanmore Parish Church on Tuesday, the 15th, the service being conducted by Canon Myers, brother of Mr. Molyneux' employer, W. H. Myers, Esq., of Swanmore Park. A very large number of friends gathered at the church for the last sad rites, and very numerous were the floral tributes. The grave was beautifully lined with Chrysanthemums, etc

It is now many years since Mr. Molyneux first became known as one of our great horticulturists, when as a young head-gardener to Mr. Myers he obtained renown as one of the finest Chrysanthemum growers in the South of England, carrying practically all before him at the large Chrysanthemum shows of that period. Thereafter he added to his laurels, becoming in time one of our finest exhibition judges. He had wonderfully intimate knowledge of all branches of the profession. He had judged at big shows all over the British Isles. After being head-gardener for some years, Mr. Molyneux was appointed by Mr. Myers as his steward at Swanmore. He retained this post to the end, and between his employer and himself existed a trust and friendship that the years had tried and found perfect.

When appointed steward Mr. Molyneux had perforce to relinquish horticultural activity so far as exhibiting was concerned, owing to the sterner claims of agriculture, and a first-class farmer he proved himself. Horticulture was never abandoned entirely, and his fine collection of Roses, Phloxes, Asters, etc., at his home testifies to his keenness and love for beautiful plants. He was also an able writer, and contributed frequently to many horticultural journals on various topics, while his fine book on Chrysanthemum culture, and also one on Vines, will certainly carry his name onwards to future generations. He was also a fluent and able lecturer.

Among many other activities he had for years been a member of the Droxford Rural District Council, the Swanmore Parish Council, one of the school managers of his district, People's Warden at Swanmore, hon. secretary to the Swanmore and Bishops Waltham Horticultural Society, all this in addition to being an active member of various farming and other organisations around Swanmore. A Fellow of the Royal Horticultural Society for many years, he was one of the original sixty members who received the Victorian Medal of Honour in 1897.

Mr. Molyneux lost his wife in 1917. He felt the loss very keenly, and the silent grief thus caused no doubt preyed upon his health. He leaves one daughter, to whom deep sympathy is due on account of her great double loss in so short a space of time. Miss Molyneux had proved herself a loving and devoted daughter. Mr. Molyneux' death is a great personal loss to me, for we had been the closest of friends for more than forty years.

As I stood by his grave, my heart too full for words, I felt comforted by a feeling of assurance that here was one to whom his Maker could well apply the wonderful words, "Well done, thou good and faithful servant." Further, knowing as I did the great pleasure that it always afforded my friend to give a helping hand where needed or, it may be, a start in life to a youth, I felt that another beautiful phrase might be added to the one quoted above: "Inasmuch as ye did it to the least of these, ye did it unto Me." Many a young man can testify that Mr. Molyneux' aid and sound advice have helped him wonderfully along the Road of Life. E. B.

ALDERMAN WILLIAM BOLTON.

WE regret to announce the death of Alderman William Bolton, which took place at his residence, Mill Bank, Wilderspool, on November 18th. Mr. Bolton was a well known horticulturist in the North, and he also took great interest in public affairs. His chief hobby was the cultivation of Orchids and his famous collection is roughly estimated at 100,000 plants. Mr. Bolton also specialised in Auriculas.

CORRESPONDENCE

MAINLY ABOUT PLANT NAMES.

I HAVE taken THE GARDEN for many years and week by week have read it from cover to cover—always with instruction, sometimes with amusement and occasionally with annoyance. At the moment I feel annoyed because everyone's Belladonna Lilies have flowered this year except mine. True, I have only three bulbs, and as I put them into the hottest and driest place I could find, our chickens persist in having dust baths all over them. Still, I consider it annoying. Another cause of irritation is that the word "magenta" is so often camouflaged under the description "rose-pink." Why is this? Personally, I rather like some shades of magenta. Zinnias, Rhododendron ponticum and Mesembryanthemums are magenta and usually popular. But when one buys a new Michaelmas Daisy described as "bright rose pink" and plants it in the neighbourhood of a red Dahlia and it turns out magenta as usual, what is to be done then? I read that Mrs. Hegarty, the new rose pink Schizostylis, is a good pink, but, alas, I feel suspicious! My other complaint is that year by year my old friends appear with new names in price lists and gardening papers. Red-hot Poker has changed its name so often that I really have no idea now what it is called. Dielytra, Pyrus japonica—I do not so much mind that being called Cydonia; it is so plainly a Quince; but hosts of old friends appear from time to time in new and ill-fitting surnames. The latest victim is Lippia citriodora, once Aloysia citriodora. I have an old plant here in front of the house, about ten years old and quite 10ft. high. I informed him the other evening that he was now Mr. Lippia. He shed several leaves and begged me to go on calling him Lemon Plant, as he really preferred it. By the way, the best way is not to take cuttings, but to layer it. This is all bad, but worse follows. Plants that one has spent hours in eradicating from one's borders appear with totally new names from year to year, and a novice can easily buy a weed that he hates! A case is in my mind of a trusting clergyman who had a bed specially made to hold a "delightful Bamboo-like" plant, (see price list), and who, more or less, sat up all night to watch the first shoots appear above the surface. It then struck him as familiar, and he realised that he had spent many weary hours taking up that identical plant from borders, lawns and even gravel paths in his late garden. He left it in its bed as a warning. Coltsfoot masquerades from time to time as "Winter Heliotrope," "Tussilago fragrans" and "Petasites fragrans." An irascible gardener once speaking of it said that he had spent the entire day digging up "them damn roots." Could THE GARDEN, please Mr. Editor, sometimes expose these heartless frauds and thus add to the happiness of an ardent amateur gardener?—RONALD EILOART, *Devon.*

[Schizostylis Mrs. Hegarty is, as pinks go, quite a good pink. Living pinks seem always to have a tinge either of salmon or of lilac. In Mrs. Hegarty there is just the least suspicion of lilac. The colour is a very long way from magenta. On the question of plant names we hope to have something to say in an early issue.—ED.]

BRITISH BULBS.

THERE has been a great deal in THE GARDEN lately about the lack of patriotism shown by bulb-buyers in getting their bulbs from Holland. As one representing the large number of people who buy their bulbs, as a rule, in England, I should like to point out that the matter is not one of patriotism, but of price. At the moment many of us are obliged to readjust our expenditure to balance rapidly diminishing incomes, cutting down luxuries where we can—and among the luxuries many of us must count our bulbs. Before placing my order I went through several catalogues of both British and Dutch firms, and on finding that I could get my bulbs from Holland at one-third the price of the English firms, I reluctantly decided to send my order there. I say "reluctantly," because nothing could have been finer than my bulbs last spring, purchased from an English grower. What the Dutch bulbs will turn out to be I am now waiting to see. So long as English labour is so dear, with the result that English growers cannot compete in price with the Dutch, just so long will we be driven to buy where we can, rather than where we would. The trouble seems to me neither lack of patriotism nor lack of advertisement, but the great difference in price.—K. LAING.

[It is to be feared that if our correspondent has obtained Dutch bulbs at one-third home-grown prices he is doomed to sad disappointment. The difference in price between *reputable* British and Dutch houses does not exceed 20 per cent., and this takes no account of quality!—ED.]

A NATIONAL DAFFODIL SOCIETY?

FROM what I can gather there is among the most active Daffodil people a definite wish to see a National Daffodil Society come into being. I would suggest that a meeting of all who are in favour of the proposal be held in the R.H.S. Hall at Vincent Square on the first day of the Forced Bulb Show, if the Council will allow the use of a room for this purpose. This would be either the first or second Tuesday in March, and with the Daffodil season immediately in front of us there would be opportunities of meeting one another which do not occur at other times. The question of how best to start such a society could meanwhile be discussed by letter among those interested, and if anyone cares to write to me I will be glad to receive and answer their communications. At present the line of least resistance seems to be the conversion of "The Midland" into "The National." This at any rate would give the new venture a "running start." Its value might not be altogether proportional to the difference in length between a standing and a running long jump, but it would mean a very great deal. I hold up my hand along with Mr. Duncan Pearson for the proposal.—JOSEPH JACOB.

AN AUTUMN FLOWERING SHRUB.

I DO not remember to have seen anything in your columns about the satisfactory flowering this autumn of Hibiscus syriacus. Romneya and Belladonna are both doubtless more striking than the Hibiscus, but this last is especially useful as a shrubbery plant. It runs to shades of colour which are by no means universally admired, though there is really nothing in the shrubbery to clash with them. The pure white variety, at any rate, is clean and bright, and in favourable seasons very desirable. The rather stilted habit of the shrub and its failure to mature many blossoms in cold, backward seasons are its most serious drawbacks. The enclosed photograph, however, scarcely does the plant justice.—SUSSEX.

A HEAT LOVING AUTUMN FLOWERING SHRUB. HIBISCUS SYRIACUS.

THE FIG TREE OUTDOORS.

ONE is not surprised at the Fig maturing the growth of small fruits formed in late summer and ripening them the following summer in the favoured climate of British Columbia; but one may be pardoned for being surprised at your correspondent expecting it to do the same in England, if he knows anything of the nature of our winters and springs, and also knows that the Fig is a more or less tender tree. My experience over many years in the growth of the Fig on walls outdoors in this country is that if such fruits are

t on the shoots until spring they are cast ff by the tree as soon as new growth commences; onsequently, our only hope for a crop in late ummer and autumn of the following year depends n the later formed fruit buds (formed the previous ummer and autumn) on the same shoots. Occasionlly, after an open winter and a mild spring, a ew may survive and ripen; but generally all all, and therefore in practice I have found it best o remove them as soon as the trees are at rest, hus saving them the exhaustion of supporting he fruit until spring.—OWEN THOMAS.

[Mr. Thomas admits these fruits occasionally urvive. It does not seem likely that they prove n any way a drain on the resources of the tree in vinter, and in any event the Fig in Britain suffers ather from over-growth than over-fertility, so vhy remove them?—ED.]

THE QUEEN OF SPADES.

I AM not referring to one of the four queens of a pack of cards, but to a new spade lately brought to my notice by a Sheffield firm. This firm issued a circular respecting this new spade which they are introducing, and I wrote to them saying I would like to see a sample, and also one of their forks made out of the same steel. I was pleasurably surprised to have a letter saying that they were sending one of their men with samples and would be glad of an interview. Man and tools duly arrived, and a long chat ensued. I was very pleased with one of the spades, No. C144; it is a very handy tool, of correct "lift," size and shape, and, what is more important still, is said by makers to be *unbreakable*. Every spade is tested by thrusting the edge under a strong door and heaving upwards on the handle until there is a considerable bend on the blade; when withdrawn the blade springs back to its original lines—if not it is rejected. No other spade will stand this very severe test; the secret of success lies in the fact that the makers, Messrs. Spear and Jackson, who have for many years been famous for their hand saws, are making these garden tools from the same special steel from which their noted saws have long been made. Another point in favour of this spade is that it is sent out highly finished, the blade being as bright as silver, the rivets all filed down and the shafts and handles made thoroughly smooth. This is a great advantage, especially to an amateur, for if a garden tool needs an hour's work with file and glass paper, and a month's work before it works with pleasure to the user, it can hardly be called satisfactory, and yet thousands of spades are sent out which need all this preparation. I think Messrs. Spear and Jackson are to be congratulated, and their spades and forks should have a ready sale in the near future.—J. DUNCAN PEARSON.

WHY DO I GARDEN?

MR. EDITOR, you have told me you are "all out" to make your paper interesting at all seasons and to all readers. I have a suggestion to make, and by making it—that is, if you should fall in with it—that office of yours may quite likely be snowed up with letters. Remembering how in past years such subjects as "The Sea Serpent" or "What's the Best Holiday?" occupied a considerable space in a great London "daily" in the dull season, might it not be of great use and very considerable interest if, during the months of December and January, when our garden activities are somewhat curtailed, you should invite short letters or articles from readers on this really fundamental question? One of the best titles for a gardening paper or magazine for ordinary folk that has ever been invented was "Gossip for the Garden." This was a monthly periodical which began life in March, 1856, and lived until well on in the 'sixties. Apart from its title its very first article strikes a tender chord in my being: "Protection of the Tulip Bed," and I fully appreciate the second: "Prize Gooseberries," for have I not been at a real old-fashioned Gooseberry show and seen the finessing of the keen competitors, the weighing in goldsmith's scales of the "berries" and the beheading and betailing of the winners? It is just what comes home to us that we enjoy reading best of all. We may be awfully impressed with the strange pictures and tremendous words of such articles as those on the Mesembryanthemum, which are at the present time appearing in the columns of a contemporary, but for the ninety and nine the delightful jottings from a famous garden in the West of Scotland are much more readable and interesting. They go down like nectar, while the others are like a powder which needs Black Currant jam. Why do I garden? What an endless subject! The man whose soul is not in it and whose garden bills run into hundreds might reply: "Because I am an Ass." The confessions of such an one would be spicy reading. Then there is the true lover of a garden. There is the picture-maker like Miss Jekyll at home, or Mrs. Francis King in America. There is the true old-fashioned florist like Mr. C. W. Needham, whose Tulips are to him almost life itself. There is the great traveller like Mr. Elwes, whose garden is largely a storehouse of his finds in foreign lands. There is the keen amateur-professional like Mr. Robert Bolton, who is the first recipient of the Eckford Medal, whose business and hobby seem to be one—a happy state which one is glad to know he shares with others, notably with Mr. William Cuthbertson, the Potato king. There are the men like Mr. Wallace and Mr. Dillistone who are for ever making other people's gardens. What do they make of their own? There is the person with the small garden who lives and dies unknown and so often unheard, but whose hopes and ideals, whose attainments must interest us if they ring true. "Let them all come" who wear the wedding garment of a many-sided love of flowers and of gardens.—JOSEPH JACOB.

[We shall be pleased to publish—as we can find room—our readers' views on this subject, but we cannot agree that there need ever be a "silly season" for horticultural journals.—ED.]

A SECOND CROP OF PEARS.

I HAVE been surprised of late to see no mention of one of the curiosities of this most curious season. Almost every year we are used to seeing an odd truss of bloom during the summer on some of the fruit trees, but one just looks at them as curiosities, knowing that they come to nothing; but this year no sooner was the first blossom over than another commenced which did come to both flower and fruit, especially on the Pears. Bon Chrétien, Beurré Superfin, Pitmaston Duchess, Marguerite Marillat, Fondante d Automne, Durondeau and Emile d'Heyst all distinguished themselves in this way, and especially the latter, which produced quite heavy crops of flowers and fruit, some on the same trusses as the first. Marguerite Marillat produced the usual crop of from fifteen to twenty enormous fruits, one weighing 1lb. They were gathered about the first week of September, and proved as good as usual, but no sooner were they removed from the tree than the second crop "took up the running" and grew and swelled so fast that in six weeks or so they were nearly as big as the first crop, averaging nearly three-quarters of a pound, of fair quality except in the leathery texture of the first. We are still eating them, and I enclose you one as a sample. And another curiosity about them is that none of them contain any seed or core, none of those at least which we have as yet opened. Have any of your many readers ever known a second crop to "make good" in this way before?—W. SERJEANTSON, *Acton Burnell Rectory*.

[The fruit sent was a very fine one, but, unfortunately, quite rotten when it reached us.—ED.]

LITHOSPERMUMS AND LIME.

CERTAINLY L. prostratum dislikes lime as much as it loves sun; but you, sir, admit that many species are lime-lovers. I should have thought that at least in Europe the majority of the genus grow naturally on limestone. To start with English species, L. officinale and the beautiful Purple Gromwell (L. purpureo-cœruleum) are veritable lime-lovers. On the Continent the latter is very much more widely spread, but I believe always on a limy soil. When introduced into the garden this delightful plant has to be kept in check, for its long, barren, arching shoots root at their tips, and thus it propagates itself by striding over the ground. It is more fit for an open shrubbery or the background of a big rockery. The flower-buds are usually reddish purple, and on opening turn deep ultramarine—hence its specific name. The meaning of the generic name (Lithospermum) is nowhere better exemplified than in L. officinale, whose seeds are not only as hard as stones, but white and polished. Sometimes they remain on the stems well into the winter and, indeed, longer. This Gromwell is frequently seen on limestone thickets and by the Avon close to Bristol. The Purple Gromwell has its headquarters in Britain in the Mendip region about Axbridge, Cheddar and Yatton. It loves the borders of woods and present Strawberry-beds on the hot southern slopes between Axbridge and Cheddar. Last spring a few flowers were visible in a sheltered spot as early as March 20th, but this is very abnormal; May and June are its months. In 1920 I saw it on lias on the Glamorgan coast, and it grows on Brent Knoll, Somerset, either on the lias or the oolite of that isolated hill—possibly on both formations. To return to L. prostratum, it is a plant of the sandy heaths of Western France, and of Spain and Portugal. It grew wonderfully well in a sunny Bournemouth garden on a mixture of peat and sand and clinkers, but some transplanted to a Bristol suburb did well on ordinary poor soil with its quota of lime.

L. fruticosum is a near ally of the last, but covered with short greyish hairs. It also comes from Spain and Portugal and from the South of France, but grows on arid limestone soil. I shall never forget when I came upon a colony of its deep blue flowers on the picturesque limestone chain of Sainte Baume at the back of Marseilles and Toulon. It was growing on dry, stony limestone soil at an altitude of about 3,000ft., and was associated with such plants as Linum salsoloides (flowers white, with violet base outside) and the blue Veronica teucrium (also a variety with pale pink blossoms), and in close proximity to a number of small prickly undershrubs and other greyish plants simulating in colour the broken limestone on which they grew. A small yellow-flowered Gromwell (L. apulum) also grows in dry, uncultivated places in the Mediterranean region.—H. STUART THOMPSON.

[Lithospermum prostratum in the Editor's experience likes sun—any quantity of it—but being, in this respect at any rate, an accommodating plant, it endures shade, even fairly dense shade (*not* drip), wonderfully well. It is under such conditions somewhat straggly in habit and, naturally, less free in flower.—ED.]

THE FLOWERING OF ERYTHRONIUM AMERICANUM.

THERE is frequently a good deal of disappointment on account of the failure of Erythronium americanum to bloom after the first year or because the crop of blooms it produces is not commensurate with the size of the clump. The first year purchased bulbs generally flower fairly well, but after that they show a tendency to produce a number of small offsets, frequently produced underground on stolons a little from the parent and usually at a great depth. This tendency of the species to produce its offsets too deeply has frequently been noted, and a good deal of consideration has been given to it by botanists. From a gardening point of view the non-flowering of the plants is of interest, and we should all be glad to know how to overcome it. I do not pretend to have found any infallible specific, but it is possible that some benefit may result from what I have myself found helpful; that is to confine the bulbs within a circle of earthenware, such as may be formed by a section of a drainpipe, and by putting underneath a flat stone or slate to prevent the offsets from going too deep. Some drainage has, of course, to be provided at the bottom to allow of the escape of surplus water. Occasional lifting of the bulbs and replanting is useful even then, using, of course, fresh soil. It may be said, is it worth while troubling with E. americanum when finer species may be obtained which can be successfully grown without this trouble? Personally, I consider that E. americanum, though distinct, is inferior to other yellow-flowered species. It is, however, a most interesting and pleasing Dog's Tooth Violet when it flowers. I find it does best in a light soil, not too dry.—S. ARNOTT.

LATE-BLOOMING ROSES.

INSPIRED into unwonted activity by the rains of August which came quite providentially, Roses have been flowering very late this year, with the various beautiful varieties of the exquisitely fragrant Lilium speciosum as their constant contemporaries in my own garden. Conspicuous among these have been such fine varieties as Snow Queen (Frau Karl Druschki), Corallina, Golden Emblem, Crimson Emblem and Bouquet d'Or. Souvenir de Claudius Pernet, a very beautiful creation of M. Pernet-Ducher, has also proved a most precious late autumnal Rose. When recently visiting Edinburgh I saw at the nurseries of Messrs. Dobbie and Co., on the Portobello Road, the grandest display of late-flowering Roses I have seen for many years. Two glorious bouquets of these I was successful in securing, one of which I presented to Dr. Wallace Williamson (Dean of the Thistle and Minister of St. Giles' Cathedral); the other to the consummate Italian vocalist, Madame Luisa Tetrazzini, who showed her appreciation of them by singing to me with great power and purity, in the North British Hotel, the famous Cavatina from Verdi's "La Traviata," with which, thirteen years ago, she conquered musical London. Pointing subsequently to a very beautiful Rose (I think it was Lady Pirrie), she asked me if in colour it resembled my French namesake, recently raised by M. Pernet-Ducher at Lyons? I told her that the latter variety was regarded by its raiser as a glorified version of Madame Edouard Herriot.—DAVID R. WILLIAMSON

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Hardy Chrysanthemums having passed out of flower, sufficient roots should be lifted of each variety to maintain the stock. These should be placed closely together in cold, shallow frames or in boxes, and from plants thus treated an abundance of cuttings will be available in the spring. On light soils where the old clumps will winter safely, they will, the following season, give a splendid display, particularly if a little well-decayed manure is worked into the ground when roots get active next spring.

Schizostylis coccinea.—This Kaffir Lily, with its Iris like leaves and showy scarlet-toned flowers, will only flower successfully outside when planted in a warm position and with a well-drained compost to grow in. Clumps which have not flowered and which have a quantity of spikes in various stages of growth should at once be lifted and placed in pots. Treated thus they will for many weeks give a good display in a cool house. The propagation of this plant is easily carried out during spring by division of the roots.

Aloysia citriodora or, as more commonly called, the Lemon-scented Verbena, will need some protection unless where planted in most sheltered spot against a conservatory or dwelling house. It is better to defer any pruning necessary until spring, and during severe spells of frost give protection to the wood with mats or canvas and to the roots with mounds of coke ashes or fibre. The prunings in spring will make cuttings if cut into suitable lengths. Insert these in light, sandy soil, afterwards placing the pots on a shelf in a warm, moist pit.

The Kitchen Garden.

Jerusalem Artichokes.—Although these are quite hardy and may be left in the ground for the winter, it is better to lift a portion of them and store in sand or dry soil, so that they may be handy for use during bad weather. The smaller sized tubers may be placed on one side ready for planting next February or March.

Horseradish.—Should a new plantation be contemplated the work may be done at any time when the ground is in a suitable state. When lifting the old roots select some good strong thongs and cut into lengths of about 8ins. to 10ins. or so. Plant them about 1ft. apart in rows 2oins. apart. A quantity of large roots should be always lifted at this season and stored ready for use.

Mint and Tarragon are two of the herbs frequently called for, and to ensure a continuous supply some roots should be lifted and placed in a frame or in boxes where slight warmth may be afforded.

Onions in store should be looked over the first wet day which offers opportunity, for in spite of a good harvesting some of the roots are promising none too well for a long storage.

Forcing Pits should receive such attention as necessary in the way of washing and the removal of any spent material. Secure and store in a convenient manner all necessary supplies of leaves, especially Beech and Oak.

Plants Under Glass.

The Fernery.—Considerably less water will suffice now both at the roots and in the atmosphere, and care should be taken to see that the glass is kept clean so that the maximum amount of light may reach the plants during the dull days.

Coleus thrysoideus is one of our best blue-flowering plants for winter and early spring, and the plants now with developing spikes should be encouraged with manure water. It is noticeable how much richer the tone of the flowers is when the plants have been judiciously fed. Although the plant is easily raised from seed and probably more robust plants obtained that way, I think that plants from cuttings give finer spikes and more consistent colouring.

Poinsettia pulcherrima.—As the bracts of the early plants reach full development manurial aid may gradually be withheld. If watering of the plants is done carefully and they are not subjected to high or rapid fluctuating temperatures, the bracts will remain in good condition for several weeks. Later plants should be kept well supplied with weak stimulants until they are as forward as above mentioned. At all times prevent fog reaching them.

Hydrangea Hortensis.—Those plants with good plump buds on well-matured wood should be the ones selected for early work. Let the removal of them to warmer quarters be gradual, giving them first of all a cool house position.

H. TURNER,
(Gardener to the Duke of Northumberland.)
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Horseradish.—Where this vegetable is in regular demand a quantity should now be lifted and stored in moist sand so that no inconvenience may be caused should the ground be frostbound.

Swedes may now be lifted and stored in clamps, covering with straw and soiling over so that the roots may retain the desired freshness. When Turnips are allowed to lie about in sheds without proper covering they quickly become dry and stringy.

Mustard and Cress should be sown regularly in boxes and placed in a brisk heat. During the dull season of the year this tender salading is always appreciated.

Savoys.—Some varieties of these suffer readily from excess of moisture which causes rot to set in. It is the practice in many gardens slightly to loosen the soil round the root so that the plant may be partly heeled over. This frees the water from the axis of the leaves and considerably lessens the loss of crop. We find Ormskirk one of our most reliable sorts, keeping fresh and green during the most severe weather.

Cauliflowers.—Keep a watchful eye on young plants in frames. See that they are freely ventilated and sturdy growth encouraged so that stocky plants are available for spring planting.

Club-Root.—In many gardens this eelworm pest is the cause of much annoyance owing to its attacks on the roots of the Cabbage tribe. In certain soils club-root is, fortunately, almost unknown, but in others it is with the utmost difficulty that gardeners are able to produce reasonable crops of Cabbage, Cauliflowers or Turnips; slaked lime at the rate of about 3 tons to the acre is recommended. I have found also that ordinary gas lime freely sprinkled on the surface immediately after ridging or rough digging is finished and worked further in with the digging fork later in the spring acts as a first-rate corrective. Where finger-and-toe is troublesome all stumps and leaves should be burned instead of burying in the bottom of the trench, as is too often done.

The Hardy Fruit Garden.

Plum Trees on Walls.—Old trees which may have been subjected to heavy cropping for a number of years sometimes show signs of decay in their main branches. These should be cut out and young growths trained in their place so that the vigour of the tree may be maintained. As wall trees do not always get their full share of rain owing to their sheltered position, it is wise to mulch liberally with good farmyard manure. This not only enriches the soil but restricts evaporation during a dry spell.

Cleansing of Fruit Trees.—As pruning progresses opportunity may be taken to spray the various fruit trees with a reliable winter wash. A knapsack sprayer facilitates the work and is more economical in its distribution of the wash than an ordinary syringe. We find Bentley's Concentrated Alkali an excellent preparation for destroying Moss and Lichen and also the various insect pests harbouring in the crevices. Choose calm weather for carrying out this work.

The Fruit Room.—Where there is a goodly supply of fruit in store attention must be given it to see that no undue waste takes place. Pick out all damaged or decaying fruit, admitting air freely on all favourable occasions,, so that the atmosphere may be kept dry and sweet.

The Flower Garden.

Michaelmas Daisies.—To obtain the utmost satisfaction from these plants regular transplanting and generous cultivation must be accorded them. Many of the more vigorous sorts, such as Beauty of Colwall and Climax enjoy being lifted and divided annually, or at least every second year. The added vigour and excellence of the flower spikes well repay any extra time that may be spent on them. When replanting choose the portions on the outside of the clump.

Christmas Roses retain their popularity, and, although perfectly hardy, they may, where circumstances permit, be covered by a temporary light so that the blooms may be protected from excessive rains or snow.

JAMES MCGRAN,
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

GOOD-BYE TO THE ROSES

THE early November frosts have settled all doubts as to whether or not we should be able to gather outdoor Roses at Christmas. The few blooms that remain are frozen and discoloured almost beyond recognition and the foliage is ready to fall. It is well that it is so. Weather-worn, scentless winter Roses are pitiable objects, ghosts of the summer season. After the prodigal autumn display of this year of sunshine the plants, too, must need a long rest. If they could, they must have welcomed the early frosts that brought, so soon, the winter sleep.

It has been a season for the well built, many petalled Rose. This is the type that the exhibitor favours. He can cut it the day before the show. It will retain its form throughout a broiling summer day in a hot tent. Little wonder that it revelled in the sub-tropical summer of 1921. Many varieties that "ball" in a wet summer opened perfectly in the hot days of June and July. George Dickson has been grand. One large bloom of this variety in my garden lasted a whole week before the last petals fell, and this in the height of summer. There were richly coloured blooms of fine shape, and possessing full fragrance, until the end of October. What a pity its stalk is so slender and the foliage so prone to mildew! But when you get a good bloom it takes some beating, and it is worth growing just for that possibility.

The best of all my dark red Roses, this year, has been Admiral Ward. This is another full Rose. In 1920 the shape left much to be desired. There were many flat, "bull-nosed" blooms. This season nearly every one was well formed, with that high pointed centre which is such a desirable asset. But the rich colour and fragrance of Admiral Ward are its greatest charms. The blackish-crimson has a "bloom" on it like a ripe Plum. In habit it is much superior to Château de Clos Vougeot.

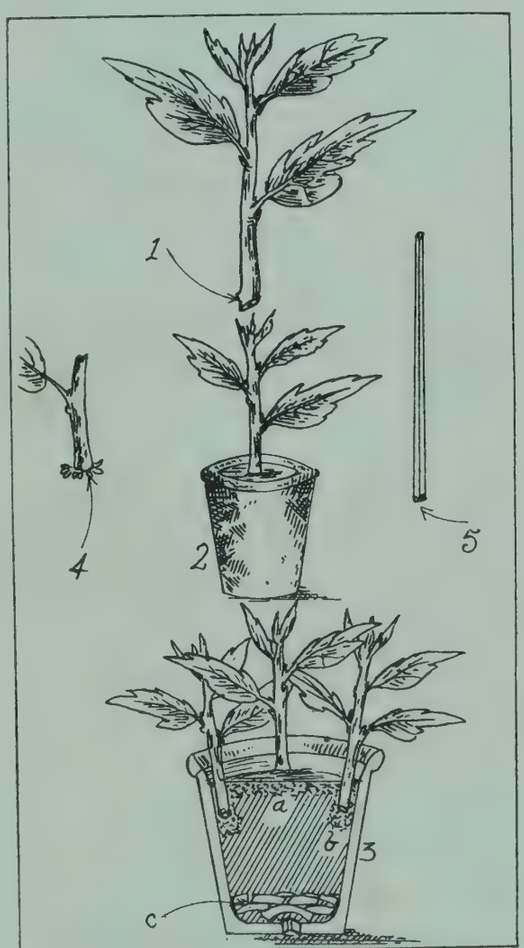
If it were not for its sprawling habit and the fact that its blooms are usually pointing towards the ground, Hoosier Beauty would be a fine variety. It has much to recommend it in colour and shape. A crimson of better habit is W. C. Gaunt. It is a fine bedding variety, and the shape is quite good. Unfortunately it lacks the perfume of some of the crimsons. I like the rich velvety finish on the light red blooms of Crimson Emblem, but though it carries full scent, its habit is too much akin to that of the Hybrid Perpetuals to make it an ideal bedder.

Red Letter Day did not come into its own till the cooler autumn days. It is of too fleeting a character for a hot summer. But the second crop was so good that one forgot the failure of the first. It is one of the best coloured of the crimson decorative Roses, and it is so very free-blooming.

Mme. Abel Chatenay has been at its best, and Chatenay at its best is unrivalled. There is no pink like it; there is no Rose that has so many good points and so few bad ones. Even in its fading stage it is captivating. Ophelia, or "Ladylove," if you like the name, is another Rose with a maximum of merits. It is an exception to find a mis-shapen bloom. The colour is a delightful shade of flesh pink with deeper tints in the heart of the flower. Its habit is perfect, and it is very free. But its scent is its surprising feature. You expect such heavy perfume in a crimson, but not in a Rose of such a light shade. Golden Ophelia seems to have a large proportion of its best qualities.

The sun was rather too powerful to let us have the rich, unique colour of "Herriot" long enough. [illegible] of the surprises of the rose garden is to go out some morning after a shower and find a dozen or so freshly opened blooms of "Herriot," conspicuous with their coral fire, that were so many uninteresting looking buds but yesterday. By noon, if the sun is hot, they are all strawberry-pink. There's the pity.

No yellow that I know is quite the same as Lady Hillingdon, but one could wish that it had the substance to last longer and a stem to hold it more erect. Emma Wright is a pure orange flame shade, but the petals are, like those of Mrs. Wemyss Quin, all too short. The latter is the most vigorous of the daffodil yellows, and the flower stalks are long enough to make it useful for cutting. Christine is a sweet little Rose of similar colouring. It is very dwarf in habit and as free as most of the decorative type. A better shaped bloom, with another row of petals, would have made it an ideal Rose.



HOW TO STRIKE CHRYSANTHEMUMS.

Golden Emblem has rather too wide periods of blooming, but its individual flowers are superior to any of similar shade. It is an exhibition rather than a decorative Rose.

Some old favourites still retain their popularity, and many of them have come out creditably in a trying season such as the past. Mme. Melanie Soupert is still in the first flight. Its indescribable mixture of exquisite shades would be sadly missed from our gardens. So, too, we could ill afford to lose General McArthur (the sweetest of red Roses), Richmond, Betty, Pharisaer and that finest of all H.P.s, Hugh Dickson, all of which might now be termed older Roses.

I think that there is a great future for Mrs. Henry Morse, perhaps the most perfectly shaped of all the newer pink Roses; for Frances, Gaunt, whose fawny apricot flowers are freely produced; for Henrietta, Lamia and Padre, all shades of orange-crimson; and for the long awaited Sunstar.

I wonder how many readers of THE GARDEN grow that charming old Bourbon, Zephirine Drouhin? It has a delightful scent and well formed blooms of a rich shade of deep pink. It has beautiful bronzy foliage, no thorns and a strong climbing habit. It makes a splendid pillar Rose and, like Lady Waterlow, gives a good autumn display. NORMAN LAMBERT.

THE PROPAGATION OF CHRYSANTHEMUMS

Varieties that flower late should be propagated early. Directions for selecting, preparing, and striking the cuttings.

BEFORE all the blooms of the old plants have faded the cultivator finds it necessary to begin the work of propagation if he wishes to be abreast of his neighbours in possessing fine plants and splendid flowers for furnishing his conservatory and greenhouse next autumn, and, it may be, win prizes at the shows. Where many plants are grown it is undoubtedly inconvenient to keep all the old roots in the large pots under glass except in certain cases. A weeding out should take place, only the best being retained of each variety, and these should be placed in a good position near the glass in a cool house, but just safe from frosts. The cuttings will then be sturdy and available when required.

About the middle of December is a suitable time for inserting cuttings of the naturally late-flowering varieties, of which Miss A. E. Roope may be named as an example. In January the great bulk of the cuttings will be put in.

Too often, I think, the cultivator selects the wrong kind of compost for the cuttings—that which closely resembles fine dust. It should not be forgotten that the cutting soil remains round the roots during the whole of the plant's existence and should be the best procurable. Old turves, in which the grass has died about two months, should, when pulled to pieces by hand, form the bulk of the compost. A very small quantity of sweet leaf-soil and sand added will make an ideal rooting medium. Manures are not, at this stage, required.

Should the plants be needed for bearing large blooms then insert the cuttings singly in small, clean pots. If they are wanted for the production of many blooms, either for cutting or on the plants till they fade naturally, then insert three or four cuttings in a 5-in. pot. Undoubtedly the small frame or hand-light, placed on the front stage of a warm greenhouse is the best position in which to place the cuttings in their pots. A quite even temperature may be maintained and the natural dampness of the atmosphere at this season regulated. The suckers growing through the soil make the best cuttings. They should be free from flower buds and insect pests. Remove the lowest leaf and cut through the stem just below a joint, as shown on the figure at No. 1. At No. 2 a cutting is shown inserted singly in a small pot. At No. 3 several cuttings are inserted near the side of a larger pot; *a*, compost surfaced with sand; *b*, sand at the base of the cutting; *c*, drainage material. The coarse sand hastens the formation of roots as shown at No. 4, in the shape of swellings or a callus. No. 5 shows a small, blunt-ended, smooth stick which carries down some grains of sand when each hole is made for the cuttings. These pegs are best made of Box wood, if this is procurable, as it does not fray in use, but almost any wood will do at a pinch. GEORGE GARNER.

A Useful Herbaceous Plant.—Gillenia trifoliata is a valuable plant for the herbaceous border, where it provides a very necessary contrast. The irregular starry flowers are white and by no means showy in themselves, but they are an admirable foil to the heavier masses of Delphinium, Chrysanthemum maximum and so forth. The foliage is pleasing, and the habit of the plant airy and graceful. It is especially valuable because it flowers before Gypsophila paniculata, which, though in no way similar, serves the same purpose when in blossom.

Cytisus Dallimorei.—This beautiful Broom is as yet not often met with in gardens, but it is undoubtedly worthy of more extended cultivation. The combination of rose pink standard and crimson wings makes it quite distinct from all other species and varieties. A tall grower, somewhat similar indeed in habit to the Common Broom, it is a hybrid between C. Andreanus and the White Portugal Broom, C. Albus. Though not long lived—this especially applies to the varieties of our native species—the Brooms form a very decorative race of plants and should be more often met with in ornamental grounds than is at present the case.

A Charming Windflower.—The Anemones or Windflowers are among the most favoured of the many plants which rejoice the gardener's heart. Their variety is great, but there are few indeed which are not of beauty sufficient to compel our affection. Some are exceedingly well known in gardens; others, if not rare, are comparatively seldom met with; and a proportion, again, are almost unknown in our British gardens. Probably Anemone narcissiflora, the Narcissus-flowered Anemone, may be classed with the second of the three. It can hardly be called rare, yet it is not abundant, and those who grow it find that gardeners in the bulk are unacquainted with it except through illustrations or descriptions. It is a native of the grassy slopes and meadows of the Swiss Alps, where it is found widely spread at an altitude of from 4,000ft. to 7,000ft. It has proved wonderfully amenable to cultivation in border or rock garden, but it is seldom attempted in grass, though a delightful sight would be formed by a group of 100 or more plants in flower in a wild garden where it would not be smothered by too vigorous vegetation. Its usual height is from 8ins. to 10ins., but it is frequently more than that; soil, climate, supply of moisture and other factors exercising a decided influence. In appearance it is highly pleasing. The radical leaves are rounded in outline, but are deeply lobed. The flower stem has an involucre of leafage, and from this spring the flowers, varying in number from two to six, seven, or rarely more. They are of a soft, almost creamy white, but are exquisitely tinged with rose or pink on the exterior of the sepals. On some plants this is much more evident than on others, and this feature is one which adds considerable beauty to the flowers. In cultivation Anemone narcissiflora is not difficult. It will do well in what may be termed ordinary rock-garden soil—a compost of loam, with some leaf-soil or peat and a little grit or sand added, but it thrives also in the border in ordinary loam. It can be increased by careful division when the plants are large enough, but seeds, although slow, are an excellent means of propagation. They should be sown as soon as ripe and kept in a cold frame until the seedlings appear the following spring. If the seeds are not quite fresh they may not germinate until the second year.

The "London Gazette."—There was an item in a recent issue of the "London Gazette" which will no doubt be of interest to many readers of THE GARDEN. It is the notification of the promotion of Temporary Lieutenant J. E. Corry, M.C., to the rank of Captain. Captain Corry is a son of Mr. William L. Corry, of Corry and Co., Limited, the well known (we had almost written "famous") firm of horticultural sundriesmen. His promotion has been granted in recognition of distinguished services rendered during the war.

FORTHCOMING EVENTS.

December 5.—Nottingham and Notts Chrysanthemum Society's Meeting.

December 6.—Royal Caledonian Horticultural Society's Meeting.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

TREES AND SHRUBS.

HEDGE FOR SHELTER (R. C., North Devon).—We share our correspondent's admiration for the "Ilex" as a wind-break and also the regrets that it grows so slowly, especially during its earlier years. For the position described we should favour Cypressus macrocarpa, which thrives so well in the West country. This could be planted either to make a tall "semi-hedge," pruned closely on the garden side, or allowed to become a naturally grown windbreak. If the ground is well dug and fair sized young trees planted at about 5ft. apart, they would soon form an effective screen. Later on, if desired, every other tree could be removed, if it is intended to allow the remainder to grow naturally.

THE GREENHOUSE.

BULBS AND ALLIED PLANTS FOR A COOL GREENHOUSE (A. P.).—In a greenhouse, with only sufficient heat to keep out frost, a very interesting collection of bulbous and allied plants can be grown. Those named below would provide practically a continuous display throughout the year. Crocus biflorus, Imperati, Sieberi, susianus; Iris persica, alata, reticulata, Danfordiæ, histrioides, Krelagei; Narcissus Bulbocodium, juncifolius, triandrus, cyclamineus; Cyclamen coum, ibericum, repandum; Fritillaria aurea, coccinea, ruthenica, Meleagris varieties; Muscari plumosum, comosum, botryoides, Heavenly Blue; Allium neapolitanum; Tulipa biflora major, Clusiana, Kaufmanniana, Greigi; Calochortii, mixed Butterfly or Mariposa Tulips; Brodiæa grandiflora; Romulea Clusii; Sparaxis in mixed colours; Ixias in mixed colours or named varieties; Gladiolus byzantinus, primulinus; Anomatheca; Oxalis cernua, floribunda, purpurata; Brevoortia; Tigridia Pavonia, conchiflora, grandiflora; Tritonia crocata; Sternbergia lutea; Zephyranthes candida, carinata; Amaryllis Belladonna, and variety purpurea maxima; Watsonia Ardernei, coccinea, Meriana; Scilla autumnalis, sibirica, bifolia, peruviana; Schizostylis coccinea; Adonis amurensis; Chionodoxa Luciliae, sardensis, gigantea; Freesia refracta alba and varieties; Galanthus Elwesii; Lachenalia Nelsoni, luteola, tricolor and named varieties; Lilium rubellum, tenuifolium, elegans; Nerine Bowdeni, Fothergilla major; Ornithogalum arabicum; and Vallota purpurea.

FRUIT GARDEN.

OLD VARIETIES OF APPLES (Lady E. G.).—Apple Hosey White is probably a local name. Lady is probably Sweet Laden, an old variety, occasio met with, and with which the description seems to Kitchen Door is another old variety, much grown ar Sevenoaks. It is a good cooking Apple, but is no w pro not propagated at all.

APPLE PINE GOLDEN PIPPIN (Felsted).—The Golden Pippin Apple is now very little grown, rather too small for modern ideas. It ripens in Oc and November, and is of very good flavour; it shou very well in a moderately heavy soil.

PEAR TREES ATTACKED (G. B., Colchest The branches have probably been bored by the c pillar of the wood-leopard moth (Zeuzera æsculi) the grubs are still alive they may be killed by thru a piece of wire, sharpened at the end, into each bu Fresh sawdust indicates the living activities of the c pillar. A wet wire shows that the wire has don work as each burrow contains only one caterpillar.

STRAWBERRIES ATTACKED (E. C. W., Suffol The damage to the Strawberries was probably don ground beetles which at all other times of the yea useful, not by wireworms or their beetles. If, next when the Strawberries are ripe, our correspondent jars with smooth sides and with their mouths level the soil, here and there in the Strawberry bed, baits them with "lights" or some similar subst most of the culprits will be captured and may quite e be killed by pouring boiling water upon them.

MISCELLANEOUS.

FAIRY-RINGS ON LAWN (Felsted).—These are ca by several different kinds of fungi, of which Maras oreades is the commonest. The rings have a beginning and enlarge from year to year unless remedial measures are taken, though very occasio the fungus dies out and the trouble ceases. The way to destroy the fungus is to drench the affected of the lawn, and particularly just outside the ring, a solution of 1lb. of sulphate of iron to a gallon and a of water. The solution should be again applied at strength a fortnight later. If the lawn is dry it woul well thoroughly to soak the patches with water b applying the solution, and in old lawns where the su is hard, it is necessary gently to raise the turf a little a garden fork so as to ensure that it is evenly satura If, as our correspondent writes, the grass is dead treatment will revive it. In addition to the basic we suggest Kainit in the proportion of 2lb. to 3lb. of slag per square rod. Next February this could be plemented by ¾lb. sulphate of ammonia, 2lb. su phosphate and ¼lb. sulphate of potash, for the same If the potash cannot be conveniently obtained it ma omitted. If the grass is really dead, recourse mus made to laying fresh turf or sowing seed.

NAMES OF PLANTS.—A. S., Walthamstow.—Chry themum Rayonnante. —— "Thornbroad" — Chry themum Bronze McNiece. This is a sport from Mr McNiece. —— "Hegerley."—1, Acer saccharinum Pyrus torminalis.

NAMES OF FRUIT.—J. S., Horsforth.—Apple Rib Pippin. Give the tree plenty of manure, and when manure has been absorbed give a good applicatio lime.——E. S., Orpington.—Apple Stoke Edith Pippin.— T. S. T., Winscombe.—Apples: 1, Golden Noble; 2, To of Glamis; 3, Newton Wonder; 4, Emperor Alexan 5, Blenheim Orange; 6, Sandringham; 7, Braml Seedling.——E. G. W., Suffolk.—Apples: 1, Rein du Canada, pale green; 2, Court Pendu Plat.— W. F. M. C., Southampton.—Apple, Reinette Grise.— C. A. J., Nottingham.—Apples: 1, Annie Elizab 2, Christmas Pearmain; 3, Sandringham; 4, Braddi Nonpareil.

CATALOGUES RECEIVED.

Thomas Rivers and Son, Sawbridgeworth, Herts: F trees and Roses.

Little and Ballantyne, Carlisle: Forest, Ornamental, F and Evergreen trees, Alpines and Roses, etc., wit *résumé* on the Government Scheme of Re-Afforestat

T. H. Dipnall, The Shelley Sweet Pea Farm, near Hadle Suffolk: Sweet Pea, Snapdragon and Vegetable See

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No. 2612.—Vol. LXXXV.]

NOTES OF THE WEEK

[December 10, 1921.

At last—at long last—a real opposition is manifesting itself in our correspondence columns to the conversion of The Midland Daffodil Society to the National society. There are, evidently, two very distinct parties in the ranks of the Narcissus enthusiasts who have diametrically opposite views on the best way of constituting this National society. Everyone seems agreed that such a society is very desirable. There remains, then, but to decide the basis on which to constitute it. Here, as elsewhere, the majority should rule; there should be no malcontents. A meeting should be held on some convenient date and at an accessible place to consider the matter. Everyone should be free to attend who is willing to become a member of the proposed society. Would-be members might well, where unable to attend, be represented by proxy. The two parties could state their case as clearly as possible both at the meeting and, beforehand, through the columns of The Garden. The votes of the majority should then decide, and the minority, whichever party it proved to be, should, as sportsmen, abide by the decision arrived at. It will be a thousand pities if, because of internal discord as to ways and means—means to an important end, be it noted—this beautiful flower is left longer under the dead hand of the R.H.S.

A National Narcissus Society.—A minor point, but one of some little importance, is raised by the Secretary of the National Dahlia Society. It is very desirable that N.D.S. should stand for one society, and the Dahlia Society has prior claim to the initials. "Daffodil" Society, when all is said, is somewhat inaccurate, so shall we all "hands up'" for a National Narcissus Society?

Plant Nomenclature.—Half in jest and half seriously, as we believe, a correspondent last week drew attention to the difficulties occasioned by the periodical changes of name many plants undergo officially. This is not at all a new problem. It was dealt with editorially in our first issue, fifty years ago. It is one of those problems which, in the nature of the case, can never entirely be solved. Anatomy and botany alike would be much simpler sciences if there were always hard and fast dividing lines between the different genera of plants. When investigation proves that a plant classified as *x* approaches, in fact, more nearly to the most characteristic species of the genus *y* than does another plant which has been placed in the genus *y*, it is obvious that, in the interest of truth, the generic name of one, at least, of the plants must be revised, in the light of knowledge. So far so good. The trouble is that of the great garden-loving public the majority are anything but botanists, so that unscrupulous firms can delude the public into believing that an old weed is a new plant. Obviously, to do so would not be good business on the part of any firm with a reputation at stake, and many of the misleading descriptions to which our correspondent referred are not misleading in intention. Our unfortunate English habit of confusing genera in our mother tongue by calling plants from two or more families by the same English name—occasionally, be it said, plants which bear not the slightest resemblance the one to the other—and our yet more unfortunate habit of calling plants by pseudo-Latin names which botanically refer to a different race of plants greatly complicate matters. We shall, no doubt, continue indefinitely to bestow on the harmless necessary annual Tropæolums the Latin name of the Watercress. Some day, perhaps, the Mock Orange may cease to be called Syringa, but one "never can tell."

The "Original Discoverer" Bogey.—There is another class of plant-name alteration which is less excusable. No pedantic desire to honour the original collector of a plant should suffice to alter the specific name of a plant already well known in gardens under another name. Such alterations are, fortunately, much less frequent than they once were, and nowadays, when confusion is straightened out, the endeavour is made to take for the name given official recognition the one in most common use. This is as it should be. The multiplication of varietal names for plants as nearly as possible identical can only be cleared up by trials of varieties at Wisley or elsewhere, and it is not easy to see how these can be carried out much more frequently than at present. The crass stupidity of bestowing pseudo-specific names on plant hybrids and derivatives was touched upon on the Notes of the Week page a few weeks ago. This should be dealt with by the Council of the Royal Horticultural Society with a firm hand; but, beyond this, it is very difficult to see what can be done to simplify matters unless some public-spirited body—the R.H.S., for instance—would publish a cheap little book of synonyms which should include all the plants which have "changed their names" or been commonly known by an incorrect name during, let us say, the last two generations.

A Humble But Useful Race.—The Forget-me-not cannot vie for dignity with the Rose, Lily or Carnation. Even as a spring bedding plant it is mainly used to act as a foil to other plants of greater stature and more striking appearance. It is, none the less, especially in some of its better forms, a very beautiful plant. Few spring flowering plants look better bedded out than Myosotis Sutton's Royal Blue, for instance. The Marsh Forget-me-not is one of our most beautiful wild flowers, fit to hold its own with any exotic bog plant of them all. Of the alpine species, the plant illustrated on this page, Myosotis Welwitschii, is quite one of the most beautiful and, probably, the easiest of all to grow. The "English Flower Garden" contemptuously dismisses it as unworthy of cultivation, as not being perennial. This, in the writer's experience, is the reverse of the truth.

OF ALL ALPINE FORGET-ME-NOTS MYOSOTIS WELWITSCHII IS, PERHAPS, THE EASIEST TO GROW.

GARDEN HEDGES

Boundary hedges and others. Suitable plants for various soils and situations, with their advantages and peculiarities.

GOOD garden hedges may be roughly divided into two groups, which we will call the imperative and the persuasive. The former group will include all hedges suitable for forcibly preventing trespass either by man or beast, and the latter will comprise those hedges which serve only to ensure privacy, to shut out undesirable objects, or, by their pleasing lines or association with other lines, or simply by their own inherent beauty, to satisfy the eye.

The most serviceable hedges for the former purpose are those of Quickthorn or Holly or, where quickness of growth is essential, the Myrobella Plum. The advantages of Quick over Holly are the fairly obvious ones of quickness of growth—Holly is undoubtedly slow growing—lower cost, comparative immunity from damage by ground vermin and—especially in the North will this be an important factor—hardiness. A really severe winter, such as, happily, we seldom get, will kill Holly outright. On the other hand, Holly will succeed and make a good hedge under the shade and drip of trees where Quick would languish and die; and, while a well kept Quick hedge is pleasing to the eye, a really good Holly one is perennially beautiful, its rich greenery more welcome in the dull days of winter than at any other season of the year; moreover, its very slowness of growth is but an inevitable accompaniment of its durability, for Holly is famous among hedge plants for its longevity.

Almost all hedges require a sweet soil to be really successful, but this is especially true of Holly, which rapidly dies away on sour land. Where a Holly hedge is wanted for purely ornamental purposes and more rapid growth is desired, the comparatively quick growing, handsome, smooth-leaved Ilex laurifolia should be planted. This species is, in the writer's view at all events, the handsomest of all Hollies. Very beautiful also is a hedge of I. Hodginsii, with its broad, well proportioned leaves of almost blackish green.

Where a good cattle-proof hedge is wanted and time cannot be spared for Holly to mature it is wise to procure five Quicks and one Holly for each yard of hedging required, and plant the Quicks in the usual double row, quincunx fashion, with one Holly to each yard. If such a hedge be kept closely trimmed, it will, in course of time, become almost entirely Holly. A mixture of Myrobella and Holly may be used in the same manner.

Coming now to purely formal clipped ornamental hedges, there is here far greater variety. Dealing first with evergreen ones, a general favourite, owing to the closeness of its verdure and the rich beauty of its colouring, is the hedge of English Yew. Its advantages, in addition to those mentioned above, are its hardiness, its longevity and the ease with which it may be kept in perfect condition. Its disadvantages are its slow growth and consequent relatively high initial cost, the fact that it does not succeed on stiff soils, and the lethal character of its foliage and young wood. It should never be used against a public road or where cattle can gain access to it.

On stiff soils Laurel luxuriates and quickly forms a very handsome and imposing hedge, but it is not long-lived and is apt to canker off in places and leave ragged gaps very difficult to restore. There is little to choose between the Caucasian, Colchic and round-leaved varieties, but, on the whole, probably the round-leaved is best. The appearance of Laurel hedges cut with the shears can only be described as "messy." They should be gone over carefully with the pruning knife, an undertaking by no means so formidable as it sounds.

The Portugal Laurel, of course, grows, at any rate in the South and Midlands, into a very dense and beautiful hedge, but this species by no means shares the fondness of the common Laurel for stiff, argillaceous soils.

Beautiful, long-lived, sweet-smelling and essentially English is the Box hedge, but, alas! woefully slow-growing. In this age of bustle it is too seldom planted, but here and there a fine example of a bygone day is met with, admirable in its old-world dignity and freshness.

Nothing in our gardens so much emphasises the rush and "jerryness" of to-day as the present over-frequent use of Privet as a hedge-plant. Privet is a valuable covert-plant, its clusters of berries, too, are not ungraceful in the wild garden or shrubbery; but its growth is too slender to hold it erect against snow or blizzard, it has no thorns to stay trespassers, no solidity of colour to form a background, and its roots, permeating the soil to a great distance, rob it of plant-food and moisture more than do those of any other hedge-plant. Where Privet must be planted for hedges, ovalifolium is far preferable to the older kind, being stockier of growth, a better colour, more opaque in the mass and less prone to go weak in the bottom.

Where hedges of considerable size are required fine ones may be formed of Cypress, Juniper, White Cedar (Chamæcyparis) and Arbor-vitæ. In the South and South Midlands the rather pal but very beautiful and characteristic, Cupress macrocarpa will succeed. This species shou be kept closely pruned and not planted in t

THE GRANDEST OF ORNAMENTAL HEDGES. ENGLISH YEW MUST NOT BE USED WHERE CATTLE CAN GAIN ACCESS.

exposed a situation, or gales will probably destro or badly damage it. It succeeds by the sea A hedge of the golden form of this tree is often beautiful foil to hedges of rather sombre tone and especially welcome in winter when days ar dark and the flower-beds bare of colour. Tw beautiful hedge plants of similar growth to th last, but of a bluish grey colour, are Cupressu sempervirens and C. horizontalis. None to hardy, these may be used very successfully in th Southern and Home Counties.

Juniper hedges are not common, but th Common, Chinese and Virginian species all mak quite satisfactory hedges. Of the White Cedar (Chamæcyparis)—the Cupressus Lawsoniana o gardens—the varieties most suitable are th typical plant for green effects and C. Lawsoniana Triomphe de Boskoop where glaucous colour is desired. C. Allumii, however, answers quite well For hedges of no great height C. Lawsoniana pisifera (syn. Retinospora pisifera) and its golden form may be used, as may the green and gold forms of its variety plumosa and the beautiful glaucous squarrosa.

Of Arbor-vitæ (Thuya) the best hedge-plant is T. Lobbi, but T. Vervæneana and, indeed, almost all the upright-growing Thuyas, from the quick-growing T. gigantea down, make satisfactory hedge-plants.

An extraordinarily beautiful and very uncommon hedge may be formed of the Mediterranean Oak (Quercus Ilex). This Oak is readily raised from seed, but, owing to its thonglike, fibreless roots and the consequent difficulty of transplanting.

is usually grown in pots, which necessarily aders plants expensive.

The Mock Holly (Osmanthus ilicifolius) forms a ry ornamental hedge, the density of its growth d its deep rich colour leaving nothing to be sired. A particularly fine hedge of this plant ay be seen abutting on the public highway at gshot, Surrey.

In southern England and generally around our a-boards, the Bay Laurel (Laurus nobilis) will rm a hedge of great dignity which will have e additional merit of its distinctive and welcome agrance.

Closely clipped evergreen hedges may, in favourble localities, be formed of other plants, such as uonymus or Myrtle, to name but two, or, more nerally, of flowering shrubs, such as Escallonia acrantha or one of the evergreen Barberries; ut though Berberis stenophylla, to take an xample, forms a splendid hedge so treated, and is pecially effective when in blossom, one always eels uncomfortable at its distorted habit of rowth and missing trails of gold.

Where colour is required in a hedge, which, e it said, is not often, there are many good ariegated Hollies which are excellent hedge lants. Always a rich even shade of gold is the olden oval-leaved Privet, and where an informal edge only is needed very bright and distinctive s the False Heath (Diplopappus—syn. Cassinia—hrysophyllus).

Several of the Thuyas are either golden, bronze r silver-spangled, and, in addition to the golden orms of Chamæcyparis Lawsoniana pisifera, . Lawsoniana lutea forms a beautiful, if expensive, edge.

For deciduous ornamental hedges the Beech and he Hornbeam are most effective. There is, of course, a noticeable similarity between the trees. One meets, strangely enough, many people who are not aware that they have ever seen a Beech edge, and still more who cannot remember having seen the Hornbeam as a tree. The Hornbeam, however, grows into a noble tree, and the Beech undoubtedly makes a fine hedge or windscreen. The Beech hedge illustrated at Ightham Mote is 30ft. high and solid from top to bottom!

Hornbeam hedges were once in great repute, and the Maze at Hampton Court, of which the hedges are now a heterogeneous medley, is said originally to have been laid out in Hornbeam. Many fine old hedges are still to be found throughout England. It is scarcely surprising, therefore, that the demand for this plant has of late years greatly revived, as its value for old time effect has become more fully recognised.

It may not be out of place to say a few words as to the use and abuse of the ornamental hedge in garden design. As a screen at once to fence and to shelter the kitchen garden, where walls would be too expensive or for some reason unsuitable, the Beech hedge is of the utmost value, while as a backing for Roses or herbaceous plants nothing is quite equal to well trimmed hedges of English Yew.

Where a vista is rather short, parallel lines of clipped hedges will give it apparent length. Conversely, where it is impracticable to give a vista width proportionate to its relatively excessive length, transverse hedges projecting a little distance each side so as to resemble a buttress, will greatly minimise the effect, giving at the same time an appearance of a series of connected gardens.

It should always be remembered that a hedge gives great weight to one side of a pathway, and that to restore the balance some compensating feature must be introduced on the other side. For this reason, except in the case of a formal Rose garden or other formal garden of similar type, it is usually better to have a border between a path and the hedge running parallel with it. This is sometimes, of course, a counsel of perfection. It is worthy of note that a hedge effectively breaks any continuity of ground contour. Where contours are awkward this is often a godsend. On the other hand, what a pity it is when one sees, as but too often one does, a beautiful vista of lawn and parkland broken by a formal Yew hedge, planted as an afterthought with some idea of framing the vista. Seeing gardens is, alas! too often a study in the might-have-been.

Hedges are sometimes seen surmounted by balls and spires, birds and beasts, all clipped from the substance of the hedge. If skilfully and judiciously done, this is, it must be admitted, an excellent if laborious way of obtaining Old English effect. Where, however, the masses are badly distributed and the individual forms hideous, the result can only be described as appalling. Where close-trimmed hedges stretch for long distances in a straight line, a "buttress" or "pillar" here and there improves matters, but the same can hardly be said of the miniature "battlements" so reminiscent of those often seen in decadent Gothic. On a large scale and boldly done the "battlement" idea can be carried out effectively, but it is rather a dangerous treatment and of insufficient value to be worthy of costly experiment.

The value of a clipped hedge depends on its being well trained and afterwards kept in condition by clipping, as necessary. Hedge clipping should not be treated as a matter concerning temporary appearance only. If a hedge is allowed to run wild for a time, it is difficult, and sometimes impossible, effectively to restore it.

THE GREAT BEECH HEDGE—THIRTY FEET HIGH—AT IGHTHAM MOTE.

VERY UNUSUAL BUT VERY BEAUTIFUL WHERE THEY FLOURISH ON OUR SEABOARDS AND IN OTHER FAVOURED LOCALITIES ARE HEDGES OF BAY-LAUREL.

SOME SHRUBS in CORNISH GARDENS

It is unfortunate, but true, that the wonderful Cornish climate produces few really fine garden pictures. The collector of the exotic, rather than the artist, holds sway. How beautiful some of the rare shrubs which flourish there would be if boldly massed and suitably blended.

"SUITABLE only for favoured gardens in the South-West." How often, after reading the catalogues' account of some amazing shrub one has come upon those depressing words. Happily, however, it becomes increasingly clear that many of these treasures are worth risking out of doors in many a garden, especially near the sea, even as far north as Scotland. Almost every issue of THE GARDEN brings fresh evidence of this, from Argyllshire, from the East Coast, from Sussex. And even if one cannot grow Clematis indivisa lobata or Camellia reticulata out of doors there are cold greenhouses in many gardens in which one could easily have such plants at their best. So, if you find mentioned in these notes some shrub you would like to grow, do not, simply because you do not live in Cornwall, dismiss it as "suitable only for favoured gardens in the South-West."

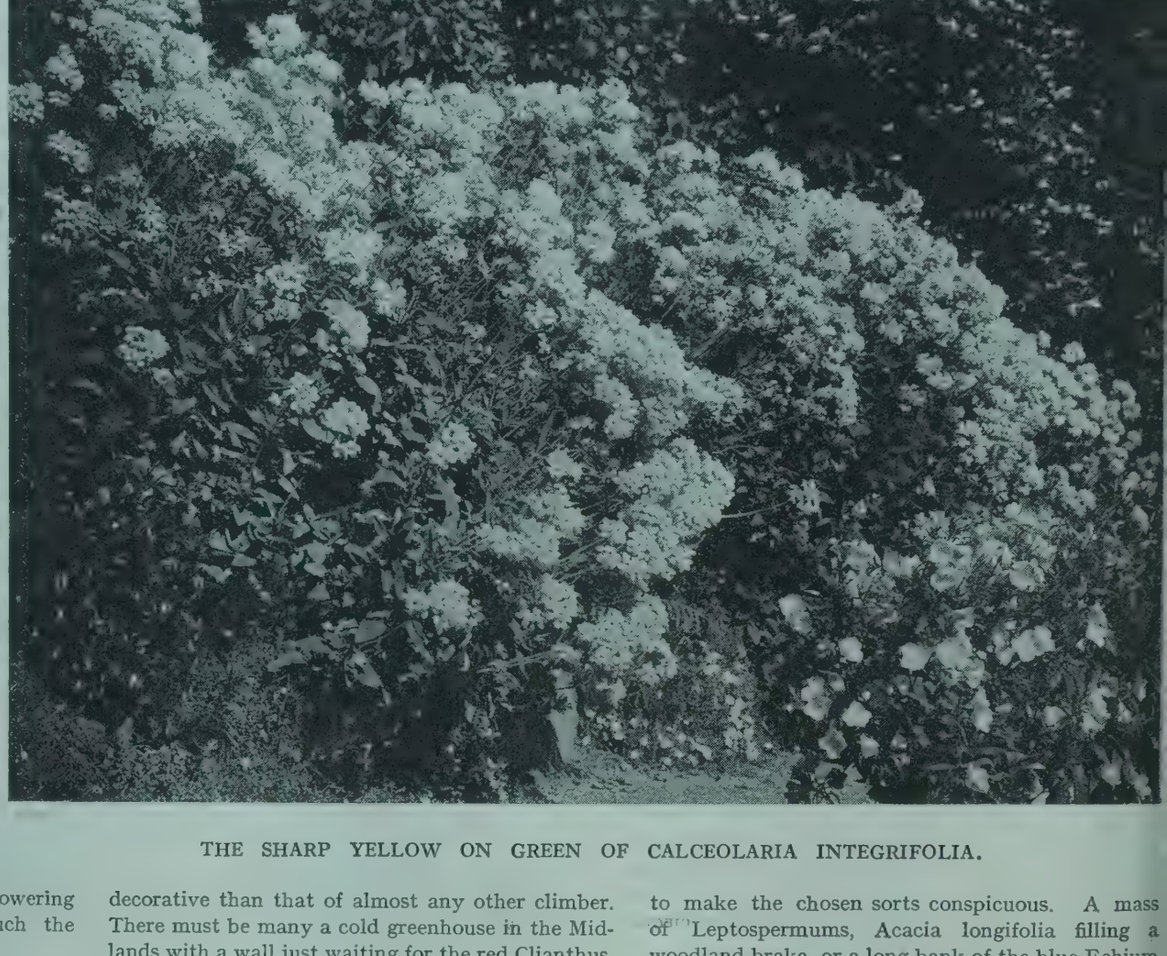
I have been seeing some Cornish gardens. Many of the most famous I have not had the fortune to visit, but here is a note of some of the shrubs that have most impressed me.

Erica melanthera shall come first. Not even E. australis at its best is as beautiful as this; I do not remember any keener garden pleasure than that of coming into a shadowed garden in early spring and finding for the first time the tall violet cloud of this Heath in perfect flower. Nine feet high it stood and 5ft. or 6ft. through. The flower has a translucent waxy texture, and black anthers, and its colour is exactly related to the bluish green of the leaves. There is a picture of Monet's in the Louvre of a flowering Lilac bush at dusk which establishes much the same colour contrast.

Hardly less beautiful is the "New Zealand Mint" (Prostanthera violacea), which makes a fine bush and will run up to some 8ft. against a wall. The purple flowers are deeper in colour than Catmint, and so brilliant and profuse that at the end of March there is nothing more striking in the garden. Is this shrub grown in cold houses up-country? It certainly ought to be!

Calceolaria violacea is, of course, much better known, and stands out of doors in Essex. Its flowers are of a paler purple, beautifully spotted; it makes a rampant bush in front of Abutilon vitifolium, which is about the same colour. Even in these gardens there can hardly be a shrub more beautiful than the Abutilon; here it becomes a small tree, and, of course, up country it often makes an enormous bush.

One of the loveliest climbers here is Clematis indivisa lobata, smothered in great white star flowers in spring. I have not yet seen much use made here of Clematis Armandi—which was beautifully figured on the cover of THE GARDEN a few weeks ago. It ought to be grown in quantity, as in a famous garden on the Riviera, where there are whole pergolas streaming with its flower clusters. Clianthus puniceus magnificus, the "Glory Pea," is well known up-country; here it begins at Christmas hanging out its rose-scarlet parrot beaks (or is it lobster claws?), and it goes on doing so till the summer. The form with white flowers tinged with water green is less effective, but still very beautiful, and the leaf of either is more decorative than that of almost any other climber. There must be many a cold greenhouse in the Midlands with a wall just waiting for the red Clianthus. It comes very readily from cuttings.



THE SHARP YELLOW ON GREEN OF CALCEOLARIA INTEGRIFOLIA.

If you want bright colour there is, of course, the terrific orange-vermilion of Embothrium coccineum, and the sharp yellow on green of Cassia corymbosa and Calceolaria integrifolia. But I am only concerned here with the plants I have liked best. Have you ever seen a full-grown plant of Leptospermum Chapmanni, or L. Nichollsi, or the white sorts in flower? Chapmanni makes a great bush, almost a tree, smothered all over with flowers of a warm pink; and Nichollsi is of a rose red, not unlike that of Rosa Moyesii. (Do you remember that bush of it in the International Show at Chelsea in 1912?) A very beautiful sight this summer was a bush of L. Nichollsi with a sheaf of pale red Watsonias thrusting up through it. One notices such a happy association of plants all the more in such gardens as those I have been seeing; for the art of putting plants together is, perhaps, rather apt to get neglected in a country where the gardener's palette includes so enormous a variety of plants and where the resulting horticultural problems are so absorbing. Often, too, I find myself longing for fewer specimens and for a larger grouping of a single kind. Of course, this is often impossible, especially with rare or difficult plants; and there will always be many gardeners to whom one perfect specimen of each plant will remain the ideal. But it takes all sorts of gardeners to make the world's gardens, and to me most of the specially memorable sights in these gardens have been the result of plantings broad enough to make the chosen sorts conspicuous. A mass of Leptospermums, Acacia longifolia filling a woodland brake, or a long bank of the blue Echium—those are what I remember first. Even so discreet a beauty as that of Correa virens (the one with pale green hanging bells) is enhanced when the plant is massed by the sides of a broad woodland ride.

Eugenia apiculata is certainly one of the noblest of all shrubs here; like an incredibly floriferous Myrtle, as big as a fairly large tree. Unhappily, it has not the scent of Myrtle, but it has always a distinguished beauty in or out of flower, with its small dark leaves and cinnamon-coloured trunk; and when the round white buds come and the Myrtle flowers, and the black fruits all on the tree together, not even Eucryphia cordifolia can rival it.

Of trees in these parts there is, I suppose, no question that by far the most magnificent is Metrosideros tomentosa. In the Scillies this grows as big as a huge Ilex tree, covered in spring with pale shoots that look almost like Horse Chestnut spikes, and then smothered in July with burning scarlet flower-heads. I have not yet seen the trees in flower—they must be an amazing sight. One can see them from out at sea making a conflagration against the dark woods as they do on their native headlands in New Zealand. Metrosideros robusta makes a smaller tree with similar

lowers, and does well here on the mainland, even n windy places. The polished myrtle-like leaf vould make the plant a treasure even if it never lowered. M. diffusa is another—an epiphyte n its natural state—with tiny round leaves in the mmature form, and larger myrtle-like ones when adult. It clings to a shady wall or trunk and bears heads of red flowers like the others. There are very few red flowers with such a fine quality of colour as these, or as the common red "bottle-brush," Callistemon speciosus. It is the rarest, most heartening of colours, a fine red. Leptospermum Nichollsi has it, and Rosa Moyesii, and so one values them more than Mitraria coccinea, Geum Mrs. Bradshaw, or even Embothrium coccineum, for all their brilliance. Here in Cornwall, as in Argyllshire, the red Bottle-brush grows out of doors; but it is easy enough to grow up-country if one merely brings the pot into shelter in winter. Not even the "Mollis sinensis" Azaleas make a more splendid decoration for a room.

Z.

THE BUSH APPLE TREE

The advantages and disadvantages of this method of training. The pruning and care of the trees. The characteristics of some of the best varieties.

OF all the forms of growth in which the Apple tree is trained, the bush form is, perhaps, the best known and most popular. For it to have attained to this popularity, it goes without saying that it must be possessed of many elements of merit. It is not necessary to describe those merits at any length because they are too well known, but a few may be noted. It is the cheapest form of trained tree we can buy, and is also the most inexpensive in management. For the first fifteen years of its life the tree can be pruned summer and winter, the fruit thinned and gathered, spraying conducted, and all other necessary work carried out from the floor level without the aid of ladders or steps. We have no other form of trained tree which will bear a crop of fruit so quickly after planting as this does. This, however, is a questionable advantage, as such precocious fertility tends to cripple the tree's healthy future growth. I think it may also be claimed for it that heavier crops from a given area of land are obtained from it than from any other trained tree—at any rate, for the first two decades of its life. I sometimes wonder if the bush tree claims this advantage on account of its roots and branches being nearer together than is the case of most other fruit trees, so permitting the flow of sap by its quicker circulation between root and branch the more effectually to nourish the tree and its fruits—something on the same principle as that of the circulation of hot water from a boiler. The shorter the circuit the greater the heat.

Of late years I have seen much of the bad result of planting bush trees too close together—namely, 9ft. apart from all points. This appears to have been the orthodox distance to plant in the past. It is a bad orthodoxy. It is quite all right for the first ten years or so of the tree's life; but afterwards, healthy growth, extension and development of branches are crippled more or less according to the variety—whether of free growth or otherwise—and its future well doing greatly handicapped. Twelve feet all round, I think, should be the minimum. Where the soil is a deep, rich loam, 15ft. would be better.

Generally speaking, I think it is a mistake to add organic manure at the time of planting, because young trees grow quite fast enough for the first three or four years after planting, if planted in well prepared soil of good depth and fair quality. It is a safe plan, however, to add a quart of bone-meal to the soil of each tree, and the same quantity of lime, well mixing both with the soil

A proper bush tree is formed of a number of main branches, or cordons, springing from its base, the centre of the tree being comparatively open This makes the winter pruning of the bush tree very simple and easy, the system adopted being what is termed the spur system. This consists of cutting back all the side shoots growing out of the main branches to within (in the case of the stronger shoots) two buds of their base, and in the case of shoots of moderate strength to within one bud of their base, the terminal or leading shoot being cut back to within 9ins. or a foot of its base, according to its length. Some varieties of Apples occasionally produce a proportion of their crop on the extreme end of the shoots of the previous summer's growth. Such are Irish Peach, William Crump, Lady Sudeley and others. Because such varieties do this to a limited extent, some growers recommend that they should be exempted from the system of spur pruning. I do not think so. This would lead in time to the barrenness of the lower part of the unpruned shoots, and so leave a great part of the tree void of fruit buds. This is not necessary, because, if we examine the young branches carefully before pruning is started upon, it will be found that such of the shoots as are likely to produce fruit at their apex disclose the fact plainly by the swollen outline of such buds, making the same easily distinguishable from wood buds. Where such are found it would be foolish to cut them off, especially as the fruit they produce is generally of the best; but because such trees occasionally act in this frolicsome way is no reason why other branches of the same tree which are content to behave in the orthodox fashion should not be cut back to their base as just recommended.

My experience of bush apple trees planted in walled or fenced-in small gardens is that they do not succeed so well as standards or half-standards do. I think it is because the conditions are less favourable to the free and unfettered circulation of air, light and sunshine among their branches.

I do not think that the pyramidal form of training suits the Apple tree so well as does the bush form. It is, I think, better suited to the freer and more supple growth of the Pear tree. Unlike the bush tree, which should have its centre fairly open, the pyramid tree is composed of a main upright stem, its principal branches radiating from this (all round it) at such distances apart as the pruner or grower may in his judgment dispose them. The annual side shoots growing out of these principal branches are cut back at winter pruning in the same way as for the bush trained tree; and the leading shoots of each of the principal branches, as well as that of the main stem, are reduced to 12ins. if strong, and to 9ins. if only moderately so.

The first Apples of the year to ripen are always appreciated. Since such early varieties have to be eaten as gathered from the trees (they will not keep if stored), a few of each will suffice in most gardens. Mr. Gladstone, taken all in all, is the most satisfactory of these to grow. The tree is a healthy grower, fertile, highly coloured, and the flavour brisk, spicy and pleasant. It is ripe from the middle to the end of July. It should be grown on Paradise stock. Devonshire Quarrenden is one of the oldest and best known of early Apples. Its ground colour is pale yellow, suffused all over on the sunny side with dark red. The flavour is pleasant and sweet and its fertility excellent. It succeeds well as an orchard standard or bush in the garden on Paradise stock. It is in season throughout August. Lady Sudeley has a ground colour of pale orange yellow, freely splashed with brilliant scarlet stripes. The flesh is yellow, juicy and of delicious flavour. Its growth is moderate. The fruits are at once the handsomest and best in their season. Ripe from August to

WELL GROWN PYRAMID APPLES AT GRAVETYE.

early September, it should be eaten as gathered from the tree.

It may, I think, be said of the comparatively new Scottish Apple James Grieve that from early in September to early in October it holds the field against all comers in popular estimation. It is of medium to large size, lemon yellow in colour, faintly striped with red. The flesh is tender, juicy, sweet and highly flavoured. The tree is of free, compact growth and a consistent bearer.

The best description of St. Everard I have yet seen is that it is a September Cox's Orange! It very closely resembles this variety in appearance and quality, but it ripens earlier and does not retain its fine flavour for more than a month or six weeks.

Ellison's Orange is a cross between Cox's Orange and Calville Blanche (best English and best French dessert Apples). By its all-round merits it has secured for itself a position among the best in its season—September and October.

For November, Cox's Orange Pippin comes into the list, and in consequence most other varieties, in the estimation of the majority of people, will have to stand on one side, cap in hand, giving it the pride of place from November to February.

Tastes in the flavour and quality of Apples, however, differ so widely that there are many Apple lovers who cannot subscribe to the above estimate of Cox's Orange Pippin. They prefer the aromatic flavour of such superb sorts as Gravenstein, or even Cellini with its sub-acid taste and tender white flesh, which are ripe at the same time. Later, the highly perfumed, aromatic Cornish Gilliflower, and perhaps the sweetest of all, D'Arcy Spice.

Allington Pippin has been remarkably good this year. The public were a long time in taking to this, one of the heaviest and surest croppers of all Apples, excellent for dessert, and now greatly sought after as a cooking variety also. I was asked some time ago if I had ever tried Cox's Orange as a cooker! I was assured that it was quite Double X treated in this way. I had no scruple or hesitation in answering this question in the negative. We shall be having Muscat Grapes cooked next!

OWEN THOMAS.

GREY FOLIAGE TIME

At this season of the year effect in the garden is largely dependent on contrast of habit in trees and plants and on the colouring of bark and foliage.

THE cold weather which has banished all but a few flowers from the rock garden has called into pleasing prominence those plants which have grey or blue foliage. Wherever a mass of Dianthus bloomed in the summer there is now a patch of fresh blue foliage which attracts attention from some distance. This is true, more or less, of all the species of Dianthus—among which may be mentioned D. cæsius and D. plumarius—but especially of those which, like D. dependens, grow well from fissures between large rocks, the dull, weathered surface of which forms a good ground for the colour of the leaves.

One effective little corner is filled with grey foliage alone. A close, shining mat of Raoulia australis covers a triangular ledge in front of two rocks between which a clump of Pyrethrum sericeum forms an appropriate setting with its finely divided but dull leaden-coloured leaves.

Standing prominently by itself in another place is Senecio laxifolius. The whole of its stems and the under side of the leaves are covered with a beautiful, close, silvery down. Extending as this does over the somewhat crinkled edges to form a white margin to the green upper surface, it produces an effect reminiscent of hoar frost

As though to add their contribution to the general colour effect, a few flowers of Gentiana sino-ornata have survived into mid-November.

Here and there by the edges of the stone-flagged paths are tufts of Festuca glauca. The fine needle-like leaves of this grass do not produce their grey "bloom" if the plant is too well fed, so that a place on the rockery is as suitable to it as the colour is to the season.

Among the trees the noble Cedrus atlantica glauca, Picea pungens glauca and Juniperus pachyphlæa elegans come specially into their own at this season. The last named was discovered in Mexico in 1851 and is described as a tree which attains the height of 100ft. The young shoots are very attractive at close quarters, owing both to their form and colour. The specific name was given on account of the hardness of the bark. A contrast is seen in Cupressus obtusa filicoides with its strange, wintry form and sombre green colour, which suggests its use as a foil for its more brightly hued companions.

Shrubs also play some part. The most noticeable is Atriplex Halimus, both sides of the leaves of which are of a uniform grey-green with a metallic lustre. The shoots are rather slender, and in wet weather tend to cause the plant to sprawl about, making artificial support necessary if it happens to be close to a path. Veronica pimeleoides, a dwarf spreading shrub, has good grey foliage, but this is rather spoilt by the unsightly brown stems and dead flower heads.

Owing to its dwarf habit Juniperus Sabina may be referred to among the shrubs. It is one of the most suitable conifers for a rock garden, and at this season the variety, prostrata, is noticeable for its bluish colour.

Evergreens are always acceptable during the dull days, but ever-greys are still more so, particularly in or near a rock garden, where their colour is most in evidence when it is most needed. A. E. SIMS.

WINTER EFFECT IN THE ROCK GARDEN—RAOULIA AUSTRALIS AND PYRETHRUM SERICEUM.

EQUALLY DISTINCT AND BEAUTIFUL. THE GREY MASSES OF SENECIO LAXIFOLIUS.

ORCHIDS AND CHRYSANTHEMUMS AT VINCENT SQUARE

THE really good show at Vincent Square on November 29 came as a distinctly agreeable surprise, after such unpromising weather on the previous day. Chrysanthemums were again the principal floral feature, and very attractive collections were arranged by various growers. Messrs. W. Wells and Co. had a great bank of many varieties. The large-flowered Japanese sorts were, naturally, fewer than of late, but there were huge blooms of General Petain, William Rigby and Louisa Pockett. Among the large-flowered singles the rich golden Audrey made welcome colour, and of the seasonable whites Gem and Alba were very good. The glowing yellow colour was continued in a massed vase of Nagoya, a medium-size Japanese variety which is very popular with market growers for "late work." Rosalind, a reddish terracotta variety, which is equally attractive whether grown as sprays or disbudded, also drew a deal of attention. A shade of colour somewhat reminiscent of that old variety Viviand Morel was seen in a quantity of Docteur Enguehard. The colour is described in Wells' catalogue as rosy pink, but it is rather nearer mauve than pink, though wonderfully attractive.

Nearly all the types of Chrysanthemum were on view in a group by Messrs. Keith, Luxford and Co. Huge stands were filled with immense blooms of Mrs. D. Andrews and Helena Margerison, their two latest to receive awards, and near by there was a big epergne of a rich crimson seedling of great merit. Singles were very prominent, and one could not fail to admire the beauty of the starlike blooms of Yellow Merstham Jewel, or the soft mauve-coloured sprays of the Anemone-centred Elspeth. Teresa, a bright chestnut with just a touch of apricot, was also particularly effective. Baldock's Crimson, which many market men have for some time grown as a companion to the yellow Nagoya, was also good. Baldock's crimson may always be relied upon to flower well after having been lifted from the open ground.

An amateur exhibit of useful Chrysanthemums from Major-General Sir Charles Haddon, Rossways, Berkhamsted, contained good vases of such decorative Singles as Reginald Godfrey, Gem, and Phyllis Cooper, as well as large specimens of Louisa Pockett.

The great decorative value of Skimmia japonica and Pernettya mucronata when well berried was splendidly illustrated by Messrs. William Cutbush and Sons, who also had most fascinating plants of Erica hyemalis and E. melanthera. The former, with its dense little columns of charming pink and white flowers, were all perfect plants that would continue to be attractive for a long time. Messrs. Cutbush also had well fruited little Orange trees.

Small pot plants and many branches of Conifers were arranged by Mr. G. Reuthe. Several Mexican Pines, notably Pinus Montezumæ, P. patula and P. Lindleyana, with needles nearly as long as those of P. longifolia were very handsome. Unfortunately, these Pines can only be grown outdoors in the warmer parts of our islands. Even more tender are Callitris robusta, Dacrydium cupressinum and Libocedrus Bidwelli. A goodly shoot, with cones, of the Umbrella Pine (Sciadopitys verticillata) and of Abies Webbiana, which is the largest leaved Silver Fir that can be successfully grown outdoors, were included.

In view of the next day's annual show of the British Carnation Society, Messrs. Allwood Brothers, Mr. C. Englemann and Messrs. Stuart Low and Co. had rather larger groups of greenhouse Carnations than usual. Our remarks on these will be found on page 624. Although there were only two groups of Orchids, they contained many beautiful plants and an unusual number received awards.

THE BEAUTIFUL ROSY-MAUVE ANEMONE-FLOWERED SINGLE CHRYSANTHEMUM ELSPETH.

NEW AND RARE PLANTS.

Chrysanthemum Helena Margerison.—At a recent meeting we noted with surprise that the Floral Committee of the R.H.S. had passed over the merits of this handsome Japanese variety. On the present occasion they have made amends; although the blooms placed before them certainly did not deserve the award—still, the variety does. Award of merit to Messrs. Keith, Luxford and Co.

Chrysanthemum Susan.—This large-flowered Single is a sport from Bronze Molly, from which it differs in having bronzy-carmine colouring in place of the bronzy-apricot of the sport parent. The large yellow zone, which radiates well into the carmine, is very attractive. Award of merit to Mr. S. Legg.

Chrysanthemum Elspeth.—A very charming little Anemone-centred Single of pleasing soft mauve colour. It is equally beautiful whether grown as sprays or when disbudded. Shown by Messrs. Keith, Luxford and Co.

Chrysanthemum Mrs. D. Andrew.—An exhibition Japanese of good size and form. The incurving petals are moderately broad, and it makes a compact bloom. The ivory white colour is occasionally lightly tinted with blush. N.C.S. first-class certificate to Messrs. Keith, Luxford and Co.

Nerine Princess Mary.—A dainty Jersey Lily of medium size and graceful spike. The tips of the perianth segments are crinkled somewhat like those of N. undulatum. The pale rosy line along the centre of the sparkling white petals is very effective. Although there is a suggestion of Nerine Bowdeni, this new variety is scarcely likely to be as hardy as that sort. Shown by Mr. Amos Perry.

Sophro-lælio-cattleya His Majesty.—In spite of the unwieldy name, this is a brilliantly handsome flower of splendid shape and fiery red shading. First-class certificate to Messrs. Charlesworth and Co.

Cypripedium Asion.—A large Lady's Slipper Orchid of shining yellow colour and white dorsal segments which have deep red centres. Award of merit to Messrs. Charlesworth and Co.

Brasso-cattleya Admiral Jellicoe var. Rosita.—A large deep rosy mauve coloured flower of very round shape and beautifully fringed lip. Award of merit to Messrs. Stuart Low and Co.

Odontioda Enchantress.—The plant bore a remarkably fine spike of deep red flowers in which the colour is well broken. Award of merit to Messrs. J. and A. McBean.

Odontoglossum Phillipianum.—The charm of this beautiful flower is the uncommon salmon pink flushing on white ground. Award of merit to Pantia Ralli, Esq.

Cypripedium Nydia.—A very large and shapely bloom. The standard is of rich crimson colour, shaded at the base to vivid green lines on white ground. The lip and dorsal sepals are walnut-red coloured. Award of merit to Lieutenant-Colonel Sir George Holford.

Cypripedium Tautzianum.—This is one of the most daintily charming Lady's Slipper Orchids we have seen. There is a wonderfully beautiful rose pink suffusion which is deepest on the lip on pale green ground. The leaves are beautifully mottled. Shown by Messrs. Stuart Low and Co.

THE PERPETUAL-CARNATION SHOW

THERE is no "close time" for greenhouse Carnations—they are always in season and in fashion—so that it would be possible for the British Carnation Society to hold a show at any time of the year. That they elect to do so on the last day of drear November, and that it is a most attractive one, is a tribute to the great value of the flower. The hall in Vincent Square was well filled with admirable flowers, and although the competition was not quite equal to that of, say, 1913, it was a distinctly better show than last year, so that the Society may fairly view the future with equanimity.

From a spectacular point of view the great feature of the show was the large trade exhibits, and in these one could not fail to be impressed by the great advance that has been made in recent years with the scarlet and red varieties. In the really immense collection of Messrs. Allwood Brothers the great quantity of the gorgeous Edward Allwood illustrated this point to the full. Probably never before has any firm shown so many of a new variety of any flower on the day it received a first-class certificate. That this was possible indicates in the best possible way that it is a first-class flower and, what is very important, a variety that blooms freely in winter. The large stands of the deliciously coloured Wivelsfield Apricot and the orange yellow Marian Willson were also prominent features of this large gold medal exhibit. Other sorts which also compelled admiration were Salmon Enchantress, Wivelsfield Pink and Mary Allwood of the perpetuals, though there was practically every sort worth growing. Among the less free-flowering greenhouse Carnations were vases of the handsome Mrs. C. F. Raphael and other perpetual Malmaisons which have a deal of the delightfully rich Malmaison fragrance.

Two distinct collections were made by Mr. C. Englemann. One comprised no fewer than 244 varieties, which was surely the most that has ever before been staged together. These were in small vases, each containing from three to five blooms; and the collection was of great importance in respect of the Classification Conference that was held in the afternoon, for the findings of the sub-committee were based largely on these varieties grown at Mr. Englemann's nursery. The large gold medal was never more worthily bestowed on any exhibit of Carnations. The other collection was of a great number of varieties in attractive quantities and mostly of those best adapted for the market grower. The scarlet varieties Tarzan and Topsy were especially prominent in this collection, which received a gold medal.

The central feature of an attractive display by Messrs. Stuart Low and Co., who received a silver medal, was the generous mass of that finest of all white varieties, White Pearl. Violet Mond, Brilliant, Sir Ed. Mackay Edgar (of old clove colour and scent) and Countess of Witton were all very beautiful.

Although there were competitive exhibits in some half a dozen classes open to florists, the various floral arrangements by Mr. R. F. Felton were admirable collectively, and he was awarded all the first prizes. His "Good Luck" harp was particularly effective

No one arranged a group of not fewer than twenty plants and cut blooms, and, in view of the fact that the money prize is the same as in the less arduous class for a smaller decorative arrangement of cut blooms, this could scarcely be expected. There were three decorative exhibits, and of these the most attractive was certainly that of J. D. Campbell, Esq., whose gardener set up an exceedingly tasteful display and fully deserved the first prize. The second prize was won by Sir Randolph Baker with an exhibit of very fine blooms, but they were too numerous, and the whole arrangement was solid and heavy.

Of the three decorated dinner-tables we liked best the chaste arrangement of Wivelsfield Apricot by Miss A. R. Bide of Farnham, but the judges gave it only the third prize and preferred the taller vases of Sir Randolph Baker, whose blooms were particularly fine. The first prize decorative basket of Carnations was decidedly the better of the two.

It is not everyone who can compete in a class requiring not fewer than 100 blooms of one variety arranged in a vase, but Mr. C. Englemann and Messrs. Allwood Brothers both had admirable exhibits. The former won the first prize with the beautiful pink Lady Northcliffe, while Messrs. Allwood had a vase of their new Edward Allwood. In these open classes Mr. C. Englemann was

ONE OF THE MOST DISTINCT AND BEAUTIFUL CARNATIONS EVER RAISED: CHINTZ

No picture in black and white can do justice to this charming variety.

THE WONDERFULLY FREE FLOWERING AND SUN RESISTING PERPETUAL CARNATION EDWARD ALLWOOD.

The scarlet and crimson shades have been much improved of late.

particularly successful, for he won nearly all the first prizes for cut blooms in vases and was also first with thirty-six blooms packed as for market.

The amateur classes for vases of cut blooms provided a great triumph for Sir Randolph Baker,

MALMAISON CARNATION JESSIE ALLWOOD.

Ranston, Blandford, who won nearly all the first prizes with most praiseworthy blooms.

NEW CARNATIONS.

Edward Allwood.—Although this brilliant scarlet Carnation has been "on the market" only during this year, its great merits have been known much longer to the show-attending public. Raisers of floral novelties rarely, if ever, suffer from undue modesty in regard to their offerings, and it is not always wise to accept their valuation; but in this case we can agree with Messrs. Allwood's description that this variety is "not unlike the famous Mary Allwood; its stem and calyx are the model of perfection, while in constitution and freedom in flowering Edward Allwood is all a great Carnation should be." First-class certificate to Messrs. Allwood Brothers.

Jessie Allwood.—In respect of habit and freedom in flowering this is one of the best perpetual Malmaison Carnations we have seen. It is also the first yellow of its type that has been raised. Its colour is described as primrose yellow, but it is a full rich primrose even in dull December. None of the Malmaison types is so free flowering as the true perpetuals, but Jessie Allwood is distinctly freer than most, and the plants on view carried sufficient blooms to make them very desirable vase plants. The foliage favours the Malmaison parent, so it is broad and silvery grey, while the large blooms are especially well formed. First-class certificate to Messrs. Allwood Brothers.

Tess.—This appears to be a very useful pure white Carnation of moderate size, good form and freedom in flowering. The committee wished to see it again. The name of the exhibitor was not stated.

Chintz.—One of the most fascinating fancy Carnations in the show. It is of large size, good form and delicate blush colour lightly striped with rosy carmine. Shown by Messrs. Allwood.

Jazz.—A smaller fancy variety of very compact build and, apparently, is free blooming. The ground colour is orange and this is heavily striped with bright red. Shown by Mr. C. Englemann.

CORRESPONDENCE

RANUNCULUS GLACIALIS AND A RARE VARIETY.

THAT beautiful mountain Buttercup, Ranunculus glacialis, though restricted to very high elevations in the Swiss Alps, is usually plentiful when once its station is reached: and in view of the copious supply of ice-cold water which generally flows through the weather-riven rock *débris* upon which it makes its home, it is not surprising that it is an exceedingly difficult plant to cultivate in our lowland and often sunbaked gardens. When traversing the Alps in search of plants we usually expect to meet this Buttercup between 7,500ft. and 9,000ft. in the Valais, more frequently at the higher altitude, though occasionally it will be found on a river moraine several thousand feet lower, to which unusual position it has been washed when its shale-like habitation has been bodily shifted by falling rocks or scree slips.

THE BEAUTIFUL SILKY-LEAVED VARIETY OF RANUNCULUS GLACIALIS.

Usually the foliage of this plant is glossy and of a dark olive green tinged with red on the stems, while the flowers are snow white inside and flushed with pale crimson on the reverse. The illustration, however, depicts a remarkable variation which I came upon near the top of the Augstbord Pass leading from the Turtmamthal to the Zermatthal. As will be noticed, the foliage is heavily covered with silk, after the fashion of an Androsace, while the flowers were of a soft cream colour with no flushing on their backs. Although on this site there were within view hundreds of plants of typical R. glacialis, only another two or three odd pieces was I able to find of this curiously shaggy form. It would be interesting to learn from other plant-lovers whether this is an isolated example or whether it crops up in other districts.—REGINALD A. MALBY, F.R.P.S.

A NATIONAL DAFFODIL SOCIETY.

I HAVE read with interest the correspondence in your columns on this subject and as the originator of the movement for the formation of a National Daffodil Society in 1911–12, I am venturing to offer a few suggestions. Mr. Bliss's letter in your issue of November 26 is much to the point. It is useless discussing the past, but we should endeavour to profit by experience. For what they are worth my views are as follows:—A National Daffodil Society should be independent of any existing organisation. It should, by general consent, be the supreme authority on all matters appertaining to the Daffodil, adopting whatever regulations may be good, and providing others which may be desirable. Its governing body should be drawn from the best qualified members, both amateur and professional, of existing societies. Its headquarters should be in London. An annual show should be held at the Royal Horticultural Society's Hall in London. It should be represented at all shows held by Provincial Daffodil Societies and award certificates of merit to individual flowers and/or other general awards. Its membership should be found among all Daffodil growers, and the affiliation of all existing societies should be sought. It should issue to its members an annual or year book containing information on notable flowers, cultural information, notes on shows and other articles of general interest to growers. It should become affiliated with the Royal Horticultural Society, and lastly the balance of the funds collected from Daffodil growers to furnish the prize money at the R.H.S. Daffodil shows should, with the consent of the subscribers, be handed over to the National Daffodil Society for similar purposes. There are many questions raised by your correspondents (including that of holding shows in several centres) with which it is impracticable to deal within the compass of a letter, most of which, when once a general principle is accepted, would become subjects of discussion in committee. It has been abundantly demonstrated how impossible it is, with the best will in the world, for the Royal Horticultural Society to discharge the functions of any special society, and it is able to blame the Society for failure to attain the impossible. Daffodil growers by conviction are not a numerous body and the success of a National

Daffodil Society can only be attained by the hearty co-operation of the majority of those interested in the flower. I can only add that I have the correspondence which took place in 1911–12, when the formation of a National Daffodil Society was first suggested, and should be willing to co-operate in giving concrete form to a movement which was at that time deferred at the request of the Council of the Royal Horticultural Society.—W. R. CRANFIELD, *Enfield Chase, Middlesex.*

I SHOULD like to remind the Rev. Joseph Jacob and other Daffodil enthusiasts that there is already a society in existence with the initials N. D. S., *viz.*, the National Dahlia Society. When speaking or writing of well known horticultural societies it is seldom that one gives the society its full title—*e.g.*, the Royal Horticultural Society is generally known as the R.H.S., and the same occurs with the National Dahlia Society. Should the National Daffodil Society materialise, therefore, there is sure to be confusion between that Society and the National Dahlia Society. May I suggest that the proposed new society be called the National Narcissus Society, which would have the additional advantage of being more correct than National Daffodil Society?—GERALD HILLIER, *Secretary, The National Dahlia Society.*

I ENTIRELY agree with Mr. A. T. Bliss' views as expressed in his letter to THE GARDEN, November 28. I am in favour of a National Daffodil Society and have read with interest the various letters that have appeared previously this autumn on the subject; they have none of them, however, seemed to offer any practical suggestions beyond altering the name of the Midland society. In my opinion a National Daffodil Society should be National in every sense, and the fact of merely changing the name would do nothing to increase its membership or the popularity of the flower. By forming an independent National Daffodil Society, acting as a centre for all local societies, we should certainly obtain a larger membership, and by holding shows at various centres we should draw people who have never seen the modern Daffodil, and undoubtedly bring in fresh members and exhibitors. I hope that as the Midland is the premier Society that the question will be discussed at the general meeting to be held on the day of the show next April and that a National Daffodil Society will be formed on the lines suggested by Mr. Bliss.—N. Y. LOWER.

BLACK CURRANT BUD MITE.

THE notes (page 597) on Insect Pests by Mr. H. W. Miles are worthy of careful thought, and those who adopt the suggestions made will derive benefit through better conditions in their gardens. I was particularly interested in the references to Black Currant bud mite and the use of lime-sulphur as a means to its mitigation, if not suppression. I have found serious scorching follow applications at the rate of one gallon of concentrated solution to as much as 15 gallons of water (Mr. Miles is not responsible for this formula), as dressings must commence early and extend throughout the migratory period. At the rate of 1 to 20 scorching was scarcely apparent and the results were satisfactory, notwithstanding the fact that, even aided by bud picking, a cure did not result; in fact, one had not dared hope for it. Lime-sulphur ought to be more extensively used for this purpose, and for others too for that matter, in private gardens, but there is a doubt as to whether it can be profitably applied in commercial cultures owing to the high cost of repeated dressings. I find it preferable to apply and more effectual than the older mixture of flowers of sulphur two parts and lime one part, dredged on freely when the plants are damp in the early days of migration, the proportions to be exactly reversed, *i.e.*, sulphur one part and lime two parts, later. If my memory serves me aright Messrs. J. R. Pearson and Sons achieved much success with a soft soap wash against this pest in their nurseries several years ago. I remember making specific reference to it in THE GARDEN at the time, but cannot trace it in my volumes and am therefore unable to give the formula. Perhaps one of the members of the firm will give your readers definite information on the subject and say, also, whether they maintain its use or have found something superior?—HORACE J. WRIGHT.

WHITE DAHLIAS FOR CUTTING.

I THOUGHT that perhaps the enclosed photograph of part of a plot of 3,000 plants of white Dahlias might interest your readers. It was taken in October last, after they had been

A BREADTH OF WHITE DAHLIAS GROWN FOR CUT-FLOWER.

subjected to continuous cutting for two and a half months.—A. E. C., *Gourock.*

"THE FRUITING OF VITIS HETEROPHYLLA."

BY giving my address only as Bath you give a wrong impression. It would not be so unusual for it to fruit in the humid climate of Bath. My garden is at Chewton Mendip, sixteen miles from Bath, 550ft. above sea level on the north side of the Mendips.—WALDEGRAVE.

EARLY FLOWERING OF IRIS UNGUICULARIS.

I AM tempted to add to the number of letters that have lately appeared in THE GARDEN on the flowering of Iris unguicularis, as I do not think any have come from this district. The Iris have been for some years outside a Vinery which latterly has been unheated, but under no circumstances have they ever shown more than one or two very poor short-stalked blooms about April, and I was thinking of giving them up as one of the many plants that in this climate only lead to "vexation of spirit." To my surprise and pleasure a number of fine blooms appeared the last week in October and have continued ever since, twelve flowers being picked on November 24. Of course, the hot summer is partly responsible for this, but can the effects of the coal strike also have a share in it? Our atmosphere this summer, usually so smoky and full of abominations from collieries, ironworks and countless factories and furnaces, has been absolutely clear, with real blue sky and pure air, owing to the complete stoppage of all these industries.—E. E., *Strelley, Nottingham.*

WHEN ARE WINTER GREENS THE MOST TENDER?

IT is generally admitted that a good frost does much for Brussels Sprouts, Savoys and the earlier Kale, in rendering such vegetables tender for cooking, more, indeed, than anything else can possibly do, but in the absence of frost it sometimes occurs that vegetables like those named, if cut and cooked almost immediately, lack both sweetness and tenderness. Mentioning this to a cook recently, she asserted that green vegetables in winter, which had not been exposed to frost, were never so tender if boiled a few hours after cutting, as those which had been kept and "flagged for two or three days," thereby losing some of their juices. Not content with merely accepting the statement, I tried the experiment on Brussels Sprouts—heads in particular—and found this to be so. It would appear almost on the face of it that vegetables "cut quite fresh from your own garden" admitted of exceptions when their tenderness was taken into account. I may say that the method of cooking was the same in each case.—CLAREMONT.

BRITISH BULBS.

IN your issue of November 12 you advertise British-Grown Bulbs, so I wrote to the Eastern Counties Bulb Growers' Federation, Norbridge, and have had my letter returned. Is the advertisement meant as a joke? I have since looked up most of the places in the Post Office Directory and find that none of them exists. I was anxious to buy British-grown bulbs, but this does not appear to be the way to encourage them.—E. S.

[It had not occurred to us that anyone looking hurriedly through the issue might possibly think our "dummy" genuine. We had thought that its position on the "Notes of the Week" page would prevent that. Nothing, we need scarcely add, was further from our thoughts than to perpetrate a

practical joke on readers. We feel rather flattered that the advertisement proved good enough to deceive.—Ed.]

THE STERILISATION OF THE SOIL BY STEAM.

THE use of steam for soil sterilisation has now become a general practice among growers of plants and fruit under glass, and the beneficial results which are achieved by this method of soil treatment is so well known as not to require further emphasis, but for cultivation in small greenhouses and for seed raising, steam sterilisation, owing to the fact that it entails a special plant, has never been generally taken up. However, I have found the following system very satisfactory and have sterilised load upon load of potting soil and soil for Tomato borders. First of all procure an ordinary boiler, the same that is used for washing and boiling purposes, any size will do; of course, the larger the better, as one can sterilise all the more soil at a time, but I find one to hold two or three barrow loads of soil a very convenient size. Next get a piece of sheet iron and cut it so that it will fit nicely inside the boiler. First of all take a punch and hammer and drive, say, twenty to thirty small holes in it for the steam to pass through. Then lay three bricks in the bottom of the boiler, not on their flat side, but on edge. This makes a suitable base for the piece of iron to rest upon and allows sufficient space for water. Fill the space underneath the sheet iron with water—the space above the iron is for the soil. This should be chopped up into small pieces so that it may pack closely together, when the steam will pass equally through it. After the boiler is full to the top place an old bag over before putting on the lid, as it prevents the steam escaping; light the fire and after the water is boiling, let it steam for three hours, which is long enough to kill all weeds and vermin that may be in the soil. Empty the boiler and spread the soil out on the floor of a shed to cool, when the boiler can be filled up again, but before doing so see that there is sufficient water in the bottom to last the next lot of soil. One may think that soil treated in this manner will get very wet, but such is not the case, for after it is cooled down it is as dry as when it was put into the boiler. Soil so treated is ready for use after three days, but should be turned over every day to let the air sweeten it. One will find for the little extra trouble in doing all this that there is not the monotonous job of going over pots and boxes weeding them during the year, to say nothing of the pests destroyed in the process.—George S. London.

THE MICHAELMAS DAISY.

I AM so glad Mr. C. Turner has sent his note about the management of Michaelmas Daisies. Reading between the lines, he is like me in favour of the annual splitting up to a single stem system, only he does not advocate it because so many gardens are short staffed, whereas it was for that very reason that it was done here. No ground could be got ready in February or March, so, if the system was to be carried out as I was determined it should be, it was pots or nothing. It really did not take long filling about 150 pots (and as I helped in the work myself, I know), and there are not many private gardens where a greater number would be required except where Michaelmas Daisies are a special hobby, and then the extra time spent on them would not be begrudged. I must own I was surprised how well ours did this abnormal summer, as it had turned May before they were put into their permanent quarters and they got no constant watering; but the proof of the pudding is in the eating. Not a single plant died, and the thirty-four in the best place were grand, with the sole exception of Belgian Queen, which lapse possibly is accounted for by the too great proximity of an Anemone japonica patch. Hence I deduce the lesson that the single stem system may be worked by the cuttings being at once put into their permanent places in February, or early in March, or by their being potted—but not coddled—and then transplanted at a convenient season to where they are to bloom. I have no actual record of how long the lights were kept on the frames after the newly potted plants were put in, but I do not think it was more than for a fortnight, if as long. At all events there was no suspicion of weakness in any of them when they were put out. It is an undesigned coincidence that an article by poor "old Jenkins" should appear in the same number as Mr. Turner's note advocating the same treatment for late-flowering Phloxes that I advocate for Michaelmas Daisies. Most people, I expect, associate certain plants or flowers with certain people, even if they have no compartment or border in their domain dedicated to "A Garden of Friendship." The annual propagation of Phloxes by taking the outside bits of clumps and, as it were, starting a fresh cycle of life each year brings before me the tall spare form of the late Mr. Woolley-Dod of Edge, with his long lean hands and the big loose bow of his black and white check tie. It was so unexpected a method to one just beginning to dabble in gardening that it made a very great impression, and I never think of this system of treating Phloxes without hearing these words: "If you must have a big clump, plant as many of these little bits (each one about 6ins. from the other) as will make a clump of the desired size." Michaelmas Daisies could, I imagine, be treated in the same manner, if clumps are a *sine qua non*. Finally, may I suggest that the present is the time to think about our supply for 1922. To quote from the introduction to the record of the trials of these plants at Wisley in 1920, in the R.H.S. Journal for May, 1921, "perhaps in no group of hardy perennials has so great a number of very good garden plants been raised during the last thirty years." It is already a case of *embarras de richesse*. Yet so many are the untapped possibilities in this many-sided race that the end is not as yet anything like in sight. "It's a long way to Tipperary: It's a long, long way to go." But Mistress Autumn Dahlia and you too, Mistress Out of-door Chrysanthemum, be warned in time! The watchman reports: "Behold there ariseth a little cloud out of the sea, like a man's hand": It is, if I mistake not, the advanced guard of the great family of Aster.—Joseph Jacob.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Planting of Shrubs.—This work should be pushed forward upon all favourable occasions, for although it is possible to carry this work out any time from November until April, climatic conditions are frequently so unfavourable for many weeks early in the year that it is a good plan to get all necessary removals well in hand by the end of the year. Where a considerable quantity of Bamboos, Hollies, Yews and Box are among those to be dealt with, it is better to defer planting until April. After the work of removal is finished any necessary staking should be seen to at once.

Protection.—This is frequently necessary in cold districts and in bleak positions both to shrubs and climbers, and such preparations as are considered necessary should now be put in hand. In many instances plants growing against walls or fences may be sufficiently safeguarded by interlacing or tying among the growths a few pieces of common evergreens. Choice plants growing in open positions may require such guard as hessian or mats, suitably arranged. In dealing with Roses, particularly newly planted ones, a little bracken, fern or broken straw lightly laid among the growths will answer well, and at the same time, especially for all Teas, heap some dry soil around the stems of the plants. Standard Roses, whether of weeping habit or otherwise, may also be helped by placing material as above in the crown of the plant.

The Kitchen Garden.

Hot-beds are an indispensable factor where early vegetables have to be produced, and the making of these should be taken in hand in time so that when required they will be in good condition and the soil nicely warmed through before any planting or sowing is done. Plenty of Oak and Beech leaves with which is mixed some strawy litter will make excellent beds. Where large heaps of such material are thrown together to accommodate movable frames they should be made sufficiently big to allow of a good margin between the frames and outside of the bed. The depth of leaves, etc., when introduced into pits in permanent positions, can frequently only be from 2ft. to 3ft., but when forming beds in open positions the greater the depth the better, and this need only be governed by the supply of material to hand. Having finished making the beds, place suitable soil for the intended crops in position upon them so that it may get well warmed. For Potatoes, Peas and French Beans this may be about 10ins. to 12ins. in depth, and should have a good amount of well decayed flaky leaf soil among it. For Carrots, Turnips, Radishes, etc., from 8ins. to 9ins. is enough and this should be light and fine.

Protecting Celery.—The amount of covering necessary and how best to apply it must be decided to a great extent by local conditions, such as nature of soil, position where crop is grown, and also whether supply must be made weatherproof for a long or short period. The most simple and often used method is to scatter a little dry bracken or straw along the centre of the rows. A more efficient one is to interlace the above material into wooden hurdles and place these over the rows. On very cold ground, where the plants must be kept in good condition as long as possible, some boards of sufficient depth should be fastened together to form a span over the rows, placing a further strip along the top of span to carry off the rain.

The Hardy Fruit Garden.

The Fruit Room requires to be kept in as even a temperature as possible, allowing on mild favourable days a free circulation of air, so that any remaining moisture may be got rid of. Many varieties of fruit have kept only moderately well up till now, and fairly frequent looking over has been necessary to remove any in a decaying state. It is not a good plan to use fire heat unless in very cold or foggy weather.

Plants Under Glass.

Chrysanthemums.—As the plants pass out of flower sufficient stools of each variety to maintain an adequate stock should be cut down to within 3ins. of the pot and afterwards placed in light, suitable positions so that healthy cuttings may develop. Propagation may commence at any time when good cuttings are available and be continued as necessary. Where no pits or frames are especially devoted to this class of propagating, really excellent results can be obtained by placing sufficient frames on the stage in a newly started Peach house or vinery. This gives just the little warmth necessary for a really good "strike." The pots or boxes of cuttings should rest on some sifted ashes as an aid to maintaining a regular amount of humidity in the frames until cuttings are rooted.

Cool Greenhouse Plants, such as Schizanthus, Clarkias, Godetias and Nicotianas, should be transferred to larger pots when well rooted. These are excellent plants for the amateur—or, indeed, for anyone where space and heating accommodation are small, for the cooler grown the better. A house where a temperature of about 50° can be maintained will do well. Added to the above list of plants which will give a good display of bloom under cool conditions, mention should be made of the hardy Allwoodii, for they are free flowering and are not too fastidious as to soil, etc.

Cinerarias, Primulas and Cyclamen coming into flower should be removed either to the flowering

house or one where similar conditions may be maintained. While giving the plants a good watering when necessary, less atmospheric moisture should be given and a fairly dry, buoyant air kept so that the flowers may develop under conditions favourable for long keeping.

Fruit Under Glass.

Late Vines still carrying a crop and having an outside border must be carefully watched, for through cold rains, with consequent lowering of the temperature of the soil, the evil results are soon apparent in decaying vineries. The evil may be considerably reduced by placing a good depth of dry Oak or Beech leaves on the border, upon which may be placed some straw to prevent the wind playing so freely with them. If the trouble becomes aggravated it would be advisable to place over the whole some wooden shutters or sheets of corrugated roofing and prevent any rain or snow reaching the border at all.

Late Muscats.—If not already done, all remaining bunches should be cut and removed to the Grape room, as no further good will be done in allowing them to hang longer on the vines. After the crop is cleared, pruning and necessary cleaning can be taken in hand as soon as convenient. Until restarting time comes allow the vines to remain in as restful a state as possible.

H. Turner
(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Digging and Trenching will still be the principal work in this department provided the weather is suitable. On heavy land ridging should be practised, as this allows the weather conditions to act more freely in pulverising the soil and putting it into that mealy condition so essential for sowing and planting in during the spring months.

Tomatoes.—Where these are grown for spring fruiting a house with a warm atmosphere must be allotted them. Keep as near to the glass as possible and admit top-air during fine weather. One of the principal factors towards the ultimate success of this crop is to maintain a stocky growth. Weak, spindly plants only cause disappointments and are more readily susceptible to attacks from insect pests. An occasional fumigation with Auto Shreds should be given to keep white fly in check.

Onions in Store.—Look over the bulbs occasionally and remove any showing signs of decay. Owing to excessive rains in the north during the autumn months, large Onions in many cases were not too well ripened. Those only slightly affected may be laid aside for immediate use.

Plants Under Glass.

Chrysanthemums.—As these go out of flower cut over and place them in their pots in a cool house or frost-proof frame, so that they may be induced to throw up strong cuttings.

Spiræas for Forcing.—For early forcing, retarded crowns give excellent results and are always acceptable for decorative purposes. Pot the crowns into the smallest sized pots that will accommodate them without breaking the roots and treat in a similar manner to that accorded retarded Lily of the Valley. Cover the crowns with moss and stand under the greenhouse stage until they commence flowering, when they may then be advanced to warmer quarters. The crowns should never be placed in strong heat immediately after potting, as the results are then most unsatisfactory.

Dielytra spectabilis should also be potted up at this time for forcing. It is probably one of the easiest forced of our garden plants and never fails to give pleasure when used for conservatory decoration. Place in a cold frame meantime and introduce into heat after the New Year.

Early Cyclamen will be pushing out their flower spikes more freely now and may be assisted by waterings of weak liquid manure. They enjoy a temperature of from 55° to 60°. The plants should never be subjected to chills or draughts, as this is generally the cause of deformed blossoms. Fumigate with XL All compound so that thrips may be kept in check.

The Flower Garden.

Anemones.—These interesting plants may be planted now, although some prefer to wait till spring owing to the severe weather experienced in their districts. Anemones revel in a light loamy soil. They are of inestimable value for cutting, and when planted in masses are most effective. St. Brigid is one of the favourite sorts and is very free flowering, producing semi-double and single blooms of the most lovely shades. The variety fulgens is undoubtedly the finest single, its dazzling scarlet colour being most striking. Groups in front of herbaceous borders show to advantage.

Giant French Ranunculi.—These are probably the strongest and most free flowering of this type of Ranunculus, and if planted in narrow borders at the foot of a fruit wall will flower early and profusely. To obtain the finest results the natural soil should be augmented with turfy loam and well rotted manure. Plant the tubers about 1½ins. deep and 6ins. apart. Where cut flowers have to be sent by post these will be found most suitable.

The Shrubbery.

Top Dressing Beds.—Opportunity should be taken during frosty weather to top dress beds of hybrid Rhododendrons, Azaleas, Acers, Pyrus, and numerous other shrubs. For the most part these beds will be a mass of fibrous roots and the plants will benefit much if given a mulch of well rotted litter or decayed material from the rot pit, which is so rich in humus. This treatment is noticeable in richer flowers and more luxuriant foliage, while on light or gravelly soils the mulch gives that cooler root run so much enjoyed by many of our finest shrubs and trees.

Hedges of various sorts may now be planted, and should a quick-growing evergreen screen be desirable, Thuya Lobbi is to be commended. But for boundary hedges we find Hawthorn the most useful. Beech is also popular and is much admired for the fresh green of its foliage in spring and the russet tints in autumn and winter.

James McGran.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

THE CALANTHE

Unlike most other Orchids the Calanthe is a sociable plant and can be grown successfully in an ordinary warm glasshouse.

THERE are a few groups of Orchids that are decidedly popular outside of the orthodox collection. The most popular of all—the Calanthe—is the subject of this note. Excellent examples are grown in gardens where no attempt is made to cultivate other Orchids, the Cucumber-house, plant stove or similar structure being suitable if the requisite temperature can be maintained.

If a judicious selection of species and hybrids is made, Calanthes may be had in bloom from November to March. First, we have C. vestita with its varieties rubro-oculata and luteo-oculata, and C. rosea, formerly known as Limatodes rosea. Among the hybrids the most desirable is C. Veitchii. It has maintained its popularity for a large number of years. In some gardens it is the only one grown, the strong spikes of bright rose flowers being always admired. C. W. Murray is often met with, while one of the most beautiful is the pure white large-flowered C. Harrisii. For producing later blooms we must include C. Regnieri, C. Turneri and C. Williamsii. When obtaining bulbs of Calanthe it is best to purchase them while in a dormant condition, although of course they may be bought at any season. On receiving the plants the base of each bulb must be examined for insect pests, especially scale, which is easily removed with an old toothbrush dipped in a weak solution of some insecticide. When cleaning the bulbs care must be taken to prevent injury to the dormant eye of the new growth.

Directly the flower-spikes are removed the bulbs are turned out of their pots, all the old soil is shaken out and the roots cut off, leaving just a small tuft at the base of each bulb. The bulbs are then arranged closely together in shallow boxes with a little dry sand, and here they remain until growth begins. A light dry position should be chosen where the temperature does not fall below 55° Fahr. When the new growths are about 1in. long and roots are showing repotting must be done without further delay. Calanthes enjoy a richer and more retentive soil than most other Orchids. It should be prepared a week or two before it is actually needed, and be placed in a warm house a few days prior to use to prevent the bulbs getting a chill. The compost consists of the best fibrous loam procurable three parts, and one part dried cow manure and partly decayed Oak leaves, adding a moderate sprinkling of crushed crocks to render the whole porous. The soil is used in a lumpy condition, and should be pressed fairly firm. It may be necessary to give each bulb a thin stake to hold it in position until the new growth becomes established.

Some growers pot each bulb separately, in which case pots 5ins. and 6ins. in diameter are recommended. Where only a few bulbs are grown this is advisable, but if a quantity were so treated the question of stage room would arise in most gardens. Therefore the next best thing is to employ fairly deep pans without side holes about 8ins. or 9ins. in diameter, which will accommodate six bulbs of moderate dimensions. Larger bulbs will need more space, while smaller bulbs should be placed in pans proportionate to their size. Whatever receptacles are chosen, they must be filled at least one-third of their depth with drainage over which is laid a thin layer of Sphagnum Moss or rough loam to keep the drainage open throughout the period of growth. As the plants are repotted they should be arranged in a shady part of a house where the temperature is about 70° Fahr. A Melon or Cucumber house is ideal for them. If space is available they may remain there during the growing season. For a month or six weeks very little water will be needed, but the stages, paths, etc., will require damping down twice or thrice each day when the weather is bright. Overwatering in the early stages of growth is a common cause of failure. Many of the new shoots then perish, while "spot" disease may appear. When the young growths are pushing freely and the roots are creeping round the edge of the pan more water may be given, and as growth advances the roots must be kept well supplied with moisture. The greatest quantity is needed just when the new bulbs are formed, and at this stage a weekly application of weak liquid cow manure will be beneficial, but it ought to be discontinued when the leaves show signs of approaching maturity. Calanthes in a young state should not be exposed to direct sunshine. None the less, they appreciate a light position, and when the flower-spikes appear no more shade will be needed. During the period of growth a moist buoyant atmosphere should be maintained, and a little air must be admitted on all favourable occasions. The amount can be increased towards the end of the season of growth. When the weather is hot the top ventilators may be left open an inch or so during the night, which will allow any superfluous moisture to escape and will render the foliage less liable to "spot" disease. Towards the end of the autumn, when the foliage is ripening, the water supply is reduced gradually, the atmosphere kept less moist, and the temperature lowered to about 65° Fahr. As the leaves fall

t enough water is given properly to develop
flower-spikes, and when the flowers open a
atmosphere will prolong the display. Arranged
a group with Maidenhair Ferns, Calanthes
most effective, while they are also valuable
a cut state. Where gardens are situated near
ge manufacturing towns smoky fogs often
stroy the flowers, and in such cases the Regnieri
oup should be grown. Their late-flowering
bit makes them safe from the fog fiend. T. W. B.

The Virginian Speedwell

UR illustration shows the Virginian Speedwell, eronica virginica, which has a dignity, not to y nobility, of growth not shared by any other erbaceous Veronica. Growing to a height of ft., or sometimes even 5ft., it is, when in flower, bout July, capable of producing noteworthy ffects. Like many others of its genus, it varies

THE STATELY BLUE SPIRES OF VERONICA VIRGINICA.

greatly from seed, both in dignity of port and in the colouring of its flowers, which in colour remind one of the equally variable Campanula lactiflora. In the best types the flowers are quite a good blue, but there are forms in commerce which can only be described as a dirty white. It is, as one would suppose from the name, a native of North America, and though not so often met with as one might expect, it has been in cultivation in Britain for upwards of two hundred years. Probably its badly coloured forms have caused it to be looked on with suspicion. Few plants look better in clumps of three to five—too large a bed destroys the aspiring appearance of the plant—in woodland glades or in the wild garden. Like all these herbaceous Speedwells, it is a somewhat gross feeder, so that plenty of good horse or cow dung should be incorporated in the soil.

PLANTS THAT ARE PESTS

IT must, I suppose, be admitted that a plant which behaves as a pest in one soil or climate may be quite orderly and charming in another; also that a plant which is a nuisance in the rock garden may be a most desirable subject somewhere else. That being so, there must inevitably exist a number of opinions as to the moral character of various plants whose reputations have at one time or another been called in question. Notwithstanding, it is always permissible to make observations on subjects of which one personally has had painful experience; this so that those who are planting may at least take due warning.

One of the earliest of my errors in this respect was the chance planting of a root or two of the Welsh Poppy (Meconopsis cambrica) in some steps. This pretty thing, so admirable for woodland, has not yet been extirpated, and I doubt if it ever will, so firmly is it entrenched in the masonry, so grimly holding ground that might be occupied by something better. I am assured, however, that the beautiful bronze (single) form does not offend like the type.

Oxalis spectabilis (?), lovely in flower and foliage is even a worse pest than the Poppy, *i.e.*, in the wrong place. It spreads by underground runners, probably by seed and by begetting legions of little bulbs which, on lifting a plant, scatter all over the place and are small enough to be carried on one's boots and tools from place to place. Oxalis spectabilis, once you get it in a soil that it likes, is a very murrain, and on the knees of repentance have I besought it these many years to take its spawn elsewhere.

As for the creeping Linarias, I have yet to meet the one I can contemplate without distrust. L. cymbalaria (Kenilworth Ivy) has never had much opportunity of doing its worst here. The admirable pallida was put in a few years ago on the assumption that it was not a rampant coloniser, but it, alas! is also branded with the same family curse. Even pretty little hepaticæfolia is displaying symptoms of energy which arouse suspicion, and I am not unduly fidgety in regard to these things.

Helxine Solierolii will swarm over anything with the rapidity of a fungus, but one can here rejoice in its wonderful glossy green and flowers like gold dust, knowing that a sharp frost or two will clip its wings and bring it back to moderation before another spring. Not so Epilobium nummularifolium, which, though hardly so difficult to weed out, is too lively and prolific for the rock garden. Nor can I suffer gladly another of its genus, called, I think, E. glabellum, despite its more attractive appearance. But, whereas these only creep on the surface and sow the parish with their feathered seed, what shall one say of Convolvulus althæioides (properly C. tenuissimus) of most catalogues? No more beautiful plant lives than this one, with its big rose-satin trumpets and finely cut, pale grey foliage. (The true leaves are green and almost exactly like those of a young Ragwort.) Yet it is the most rampaging, fighting, overwhelming weed that ever burrowed into forbidden ground. The Couch-like roots know no obstacle, recognise no limitation. They will push under a gravel path or flight of steps without showing a sign until, 4ft. or 5ft. away, you will one day observe a little rosette of green, crinkly leaves and realise in sackcloth and ashes that C. althæioides has not only "got there," but fully secured his lines of communication. Still, one cannot be too severe on a plant so lovely and one so generous with its flowers.

Oxalis corniculata rubra, I am ready to believe, may be a pleasing object where one can afford to let it have its own way, but I know of nothing so difficult to get out once it is established, nothing that spreads so rampantly. It has no compensations to offer me in return for the depths of woe into which I have been cast by its unwelcome persistence. The exquisitely beautiful Cardamine prætensis fl.-pl. can be troublesome too, in some places, for, in forfeiting the usual means of procreation by adopting the double form, it has ingeniously devised another means of increase, *i.e.*, by layering its leaves. Thus, every lower leaf that rests on moist soil sends down a tiny rootlet from its midrib and a new plant is born. This youngster immediately follows suit, with the result that a single plant of C. prætensis will soon swarm over a square yard. But, again, one cannot be too hard on a plant so attractive, and its surplus offspring are easily uprooted.

Some of the Cotulas, squalida to wit, will give trouble if allowed too much licence, and Acæna Novæ Zealandiæ is not only too boisterous for a rock garden of moderate size, but its burrs are an intolerable nuisance. For these reasons the latter has been banished, and the old Red Valerian (Centranthus rubra) has also had to go, even the one clump which for long was spared and suffered for the sake of the butterflies. With Crucianella stylosa one must also be careful, for it is often much too vigorous for the rock garden and a plant that cannot be dislodged without removing the stones which it enmeshes.

The old St. John's Wort (Hypericum calycinum) would hardly be planted in the rock garden by the simplest of tyros, but as there are doubtless some who may be tempted to put it in as a carpeting for shrubs, I can advise them to make sure that it is kept at a safe distance. An average path, for example, will not keep this pushful plant within bounds, nor will a stone wall. Its hydra-headed root-stems are more difficult to stop than those of any other plant with which I am acquainted, the wild white Convolvulus not excepted, and for having given it too much quarter in the past we are being punished by H. calycinum no less condignly than the indiscreet deserve. A. T. J.

BOOKS

Bulb Gardening.*—The third of a series of which "Rose Gardening" and "Town Gardening" were its predecessors, "Bulb Gardening" strikes us as being distinctly better than either. From the point of view of an elementary text book this work has many good points. The plates in colour, though well registered, are not first-rate, and one suspects hardly do justice to the artist's paintings. While much of the information is too general and many of the statements too sweeping—this is particularly the case with regard to the chapter on Lilies, the book is evidently written by one who has had much practical experience with bulbous plants. Since when, by the way, have Dahlias been bulbous plants? Few will cavil at their inclusion, however, unorthodox though it be.

The authoress is quite a good writer on practical gardening. It is a little unfortunate, therefore, that she does not confine her writing to that. Her notions of garden design can only be described as weird, and of her line drawings perhaps the less said the better! The drawing on page 147 of a "Lily grown in a Basket" is, to say the least, remarkable. The general get-up of the book is good—the type being large and clear, while no

* "Bulb Gardening," by Mary Hampden. Published by Thornton Butterworth, Limited, 15, Bedford Street Strand, W.C.2; 7s. 6d. net.

typographical errors were noticeable. As four coloured plates are included and it extends to upwards of 200 pages, it is not an expensive book for its size.

A Trio of Booklets.—Mr. Horace Wright's little book on the Sweet Pea* is just what is needed by the novice in Sweet Pea culture, but it should prove of great assistance to many gardeners of admitted cultural skill. Mr. Wright laments the diminution of fragrance in the newer "Spencer" varieties, but though this assuredly is a loss in the garden, most people will find them more welcome for cut-flowers on that very account. Their scent indoors is now pleasant without being overpowering. One statement of Mr. Wright's might, in our judgment, be better for a little modification. He states that "the plant is so hardy that the question of whether or not it will stand through the winter need not come up for discussion." Readers who live in the Midlands or the North will tell another story! Snow, thaw and then frost will, unfortunately, quickly destroy every plant.

Mr. Owen Thomas' booklet on Pruning Roses and Fruit Trees† fills, at little cost, a want long felt by the amateur. Written unaffectedly and without technicalities, it will be a worthy addition to the little library of the small gardener. The only improvement which one can think of would be the addition of an index.

Frankly written for the thousands of people who have little or no other space for plants than their parlour windows, the small book on Pot Plants‡ is worthy of great commendation. There are chapters on the treatment of cut-flowers, on alpines in pots, on window-boxes and on plants for suspending in windows in which brief details are given as to the culture of all kinds of plants suitable for room decoration.

A Clematis That Does not Climb.—How rarely one sees that charming erect-growing herbaceous perennial, Clematis erecta fl. pl., growing in the hardy flower garden, though the popularity of the climbing forms is immense. They are first-class showy plants of great value for tying out to fill the gaps left by early flowering plants such as Oriental Poppies or Pyrethrums. The variety that forms the subject of this note is a rather rare plant, though the single form is much commoner. It attains a height of 3ft. and is one mass of flower from the end of June to the end of September. The plants make large bushes of erect, self-supporting stems, terminating in large umbels of very double white flowers that are splendid for cutting purposes. The fact should not be overlooked that both this and the single form are splendid plants for borders that do not get a great deal of sun. They are often seen flourishing amazingly on north borders where sun only reaches the plants sideways for a brief time when rising or setting, though this must not be understood to mean that they will succeed near fences or beneath trees. The rarest variety is erecta purpurea, a very noteworthy plant, with deep bronzy purple stems and foliage and umbels of creamy white flowers. They dislike prolonged drought, but one really good soaking will keep them going for a long time. Their predilection for an abundance of lime in the soil should be noted.

The Gentian Blue Sage.—Among perennials of recent introduction Salvia uliginosa, a beautiful hardy species from Brazil, occupies a high position and should find a home wherever herbaceous plants are cultivated. When shown before the Royal Horticultural Society on September 9, 1913, it received an award of merit. It is not fastidious in regard to soil or position; almost anywhere will suit it except dense shade. It grows well in a damp but sunny site, but succeeds in the herbaceous border where it usually attains a height of 5ft. or 6ft. During the past season, however, it has not reached above 4ft., though the flower-spikes have been equal to those of previous years. The plant has a graceful, freely branching habit, and the flowers, of which a large number are open at one time, are of a beautiful azure blue. It commences to bloom towards the end of July and continues in full beauty until cut down by frosts. It is very effective in association with Anemone japonica. When the borders are dug over a liberal supply of farmyard manure should be placed in close proximity to the roots, especially if the soil is of a light hungry nature. It is easily propagated from cuttings taken during September and October, which form roots readily in a cool house or cold frame. It should be well worth trying in the bog garden.

* "Sweet Peas and How to Excel With Them," by Horace J. Wright; † "How to Prune Roses and Fruit Trees," by Owen Thomas, V.M.H.; ‡ "Pot Plants and How to Preserve Them," by W. Truelove. All published by "Country Life," Limited, 20, Tavistock Street, Covent Garden, London, W.C.; 9d. each net.

FORTHCOMING EVENTS.

December 12.—National Chrysanthemum Society's Floral Committee Meeting, to be held at the Royal Horticultural Society's Hall, Westminster, at 3.15 p.m. United Horticultural Benefit and Provident Society's Committee Meeting. Bath Gardeners' Debating Society's Meeting.

December 13.—Royal Horticultural Society's Fortnightly Meeting.

December 14.—East Anglian Horticultural Society's Meeting.

OBITUARY

MR. WILLIAM PURDOM.

As we go to press we learn of the sudden death of Mr. William Purdom, which took place at Pekin, China, on November 7. Mr. Purdom was an old Kewite and a well known plant collector in China, where he travelled for Messrs. James Veitch and Sons and the Arnold Arboretum. At the time of his death Mr. Purdom was engaged with the Chinese Forestry Service.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

TREES AND SHRUBS.

SHRUBS FOR GARDEN IN SPAIN (C. S., Spain).—It is more than probable that the five or six months' drought every year, accompanied by a hot south-east wind from Africa, would rule out many of the Acacias from a planting scheme, particularly those like A. dealbata and A. Baileyana, which have pinnate leaves and are partial to moisture. But those with entire leaves, such as A. longifolia, A. pycnantha, A. p. petiolaris and A. cultriformis should flourish. Many of the Eucalypti would also be suitable and a number are quite handsome when in flower. E. ficifolia bears gorgeously brilliant flowers; E. Baileyana, which is more spreading in habit than any other Eucalyptus should, if possible, be included. The fragrant foliaged E. citriodora would probably be hardy and the silvery leaved E. cordata (syn. pulverulenta), which also flowers freely, should be included. Other sorts which are showy when in flower include E. robusta, E. Andreana, E. leucoxylon and E. melliodora; the two last named are eagerly visited by bees when in flower. Flowering shrubs that should prove suitable are Hakea laurina, Protea cynaroides, Lavandula pinnata, Diosma ericoides, Olea fragrans (Osmanthus fragrans), Hypericum canariense, Viburnum rigidum, Metrosideros floribunda, Lantana hybrids, Drimys aromatica, Illicium floridanum, many Cistuses and Helianthemums, Coronilla emerus, C. glauca, Cytisus racemosus, Diplacus glutinosus, Tamarix Odessana, T. tetrandra, Calophaca Wolgarica, Erythrina Crista-galli, Fabiana imbricata, Leptospermum Boscaweni, L. Nicholii and Feijoa Sellowiana. Although Magnolia grandiflora flourishes while the deciduous kinds do not, we should certainly try the beautiful pink M. Campbelli and the fragrant M. fuscata (syn. Michælia).

DESTROYING TREE STUMPS (R. H. S., North Shields).—If any shoots that spring from the tree stumps are presistently removed the stump will die and gradually decay. But should it be desired to hasten this process, the safest method is to bore 1in. auger holes in a downward direction in the trunk and put in about 2 oz. of ordinary saltpetre (nitrate of potash). The holes should be plugged to prevent rains from washing out the saltpetre.

EDGING FOR CLUMP OF TREES AND SHRUBS AND OTHER QUESTIONS (E. S. M., Wilts).—A bordering of Box would be quite suitable and if it were allowed to become a foot or even more high and correspondingly broad, it would give a deal of character to the feature. With regard to the unsightly grass edging of the flower border, this, in the circumstances, would be best replaced by Box Euonymus radicans or the Dwarf Ivy (Hedera Helix minima). Box may be easily propagated if cuttings from 4ins. to 6ins. long are firmly inserted in a shady place during August or September. If slips, about the length stated, can be pulled off and the heel retained, these will root even more certainly than the orthodox cuttings. In fact slips are often inserted in the Box edging in the early spring to fill small blanks and a goodly proportion root successfully. While Cratægus Pyracantha (or better still Pyracantha Lalandei) would probably grow the faster, we should prefer to plant Cotoneaster microphylla, partly because its berries do not appeal so strongly to birds as do those of the Firethorn. To cover the wall quickly, it would be well to plant the shrubs at about 5ft. apart. The asphalte close to the house should certainly be broken up before any planting is done. It would be well to make a narrow border, say 2ft. wide, and, after fresh soil has been introduced, this could be planted with such aromatic shrubs as Rosemary, Lavender and Southernwood, with the dwarfer Cistuses and Helianthemums, as well as the wall shrubs. In such a border various sun-loving bulbous plants, such as the newer Alstrœmerias and Zephyranthes candida, could be well grown. The planting could be done in the early spring during moderately mild weather.

FRUIT GARDEN.

PEACH TREE DISEASED ("Thornden").—The Peach shoots are very badly attacked by Peach mildew. The mycelium present is likely to spread the disease next year. The trouble is in no way connected with silver leaf.

APPLES FOR THE GRASS ORCHARD (Felsted).—(1) Except on really strong "Apple" soils, the sorts mentioned do not make sufficient wood to be really suitable for the purpose mentioned. They prove precocious as regards fruiting. (2) Lady Sudeley is an awkward orchard tree, as owing to its peculiar habit of "stopping" itself with flower buds, it extends very slowly and also tends to become congested. This necessitates much pruning, which in an orchard tree is difficult. In addition, its fruits are great favourites with birds and it is practically impossible to protect them on a standard tree.

APPLES, CODLINS AND PIPPINS (A. C. B., Kent).—These terms are evidently of ancient origin. Very little seems to be known as to their derivation or meaning, excepting that the term "codlin" is associated with cooking Apples and "pippins" with dessert varieties of the same. The latter we think refers to the primitive way in which the Apple was propagated, namely, from pips (or seed). We hear occasionally of the pleasant term "Codlings-and-Cream," a delightful combination, always associated in our mind with that oldest and sweetest of our cooking Apples, Chiswick Codlings-and-Cream. However, on referring to the "Dictionary of Gardening" (Nicholson's) for information on this point, we are referred to Epilobium hirsutum, a hairy, hardy, flowering plant! A bit of a shock!

MISCELLANEOUS.

ESTABLISHING BRACKEN (J. S., Montgomeryshire).—The common Bracken is rather difficult to establish in places where it does not grow naturally. If it occurs in the neighbourhood, turves, as large as can be conveniently handled, may be cut in the spring, just as the young fronds are beginning to burst from the underground stems, and set in the ground around the trees where it is wished to establish the Bracken. Should the weather be dry copious waterings will be necessary until rain falls. Another method is to collect fronds in the autumn just before the spores are ripe and raise "seedlings" from them. This could be best done by preparing a piece of ground in a warm, moist place out of doors and laying the fertile fronds over it. In two or three years' time the young Ferns should be large enough to be transplanted. This could best be done immediately after the first heavy autumn rains, taking the young Ferns up in little patches and setting them out at fairly even intervals over the ground. To prevent the growth of weeds in the seed bed, which would smother the sporlings, it would be well to sterilise the surface soil. This could be easily done by making a bonfire in the centre and, when it is well alight banking it down with the soil. When cold the heap should be spread and raked level, leaving all except the large pieces of charred wood.

THE GARDEN

No. 2613.—Vol. LXXXV.] [December 17, 1921

NOTES OF THE WEEK

NOW that Smithfield Fat Stock Show has come and gone, one begins to realise in very truth that Christmas is near. Our next issue, one is reminded, will bear date December 24. Many keen mateur gardeners have leisure at the festive season who have little time otherwise to spare during the winter. For their benefit we propose to devote part of the issue to a consideration of some aspects f the flower seed order. It is hoped that some, t any rate, of the information given will be of real ervice to most readers.

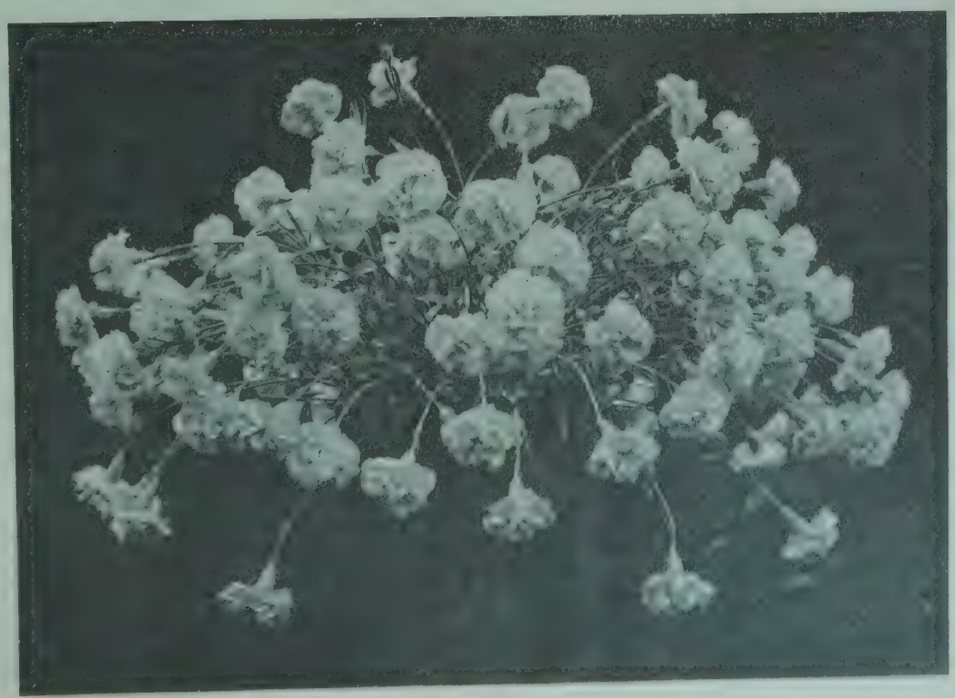
The Iris Conference.—There will be found n page 643 the programme of arrangements as ar as at present decided for the International ris Conference to be held next year, and which as been promoted by the Société nationale l'Horticulture de France, which, among our Gallic friends, holds a position roughly comparable with that of the Royal Horticultural Society n Britain. It is greatly to be wished that British Iris lovers, whether nurserymen, hybridists or amateurs *pur sang*, will assist the Conference in every possible way. There is a great deal of ground-clearing work really necessary in this connexion. If this is properly to be carried out, whole-hearted support and assistance must be rendered by everyone with the requisite plants or information.

The Planting Season.—It is very satisfactory that the weather remains so open (touch wood!) and the ground in such good condition for planting. The only handicap in many cases is the impossibility of obtaining quick delivery from the harassed nurserymen. It is, admittedly, annoying to see good weather pass while the wanted trees are not to hand, but no one can achieve impossibilities, and it is certain that the trade, as a whole, are doing their best to clear off arrears. There is, it is true, no shortage of unskilled labour, but this can, of course, only be employed to a very limited extent on work of this kind. It must be evident that an autumn so awkward as the one we have passed through will always leave a legacy of trouble for nurseryman and planter alike. It is a little unkind, therefore, to worry cause he fails to achieve the impossible. A few more weeks of open weather are greatly to be desired.

The Tomato.—Many market growers who go in for early crops will now have had their Tomato seeds sown some weeks, but for ordinary summer work, good trade growers are agreed that about the time of the shortest day is an excellent time to sow. By the time the seeds have germinated the days are beginning to lengthen and the average light to improve—this last is the more important point—so that there is distinctly less risk of the plants becoming drawn and attenuated or damping off. The mycelium of the fungus which causes this disorder "runs" much more readily in dull weather, especially when the air is moisture-laden as, until Christmas, it is very apt to be. Private gardeners often put off the sowing of Tomatoes too long, thus missing a portion of the season without any compensating advantage. Once they are planted out in their permanent quarters but little heat should be necessary, even for plants sown before Christmas. The spring months are, as a rule, fairly open and bright and sun heat is a great help. Moreover, every grower knows that even in summer there are dull, damp days when, if fire heat is not essential, it is, at any rate, eminently desirable.

Christmas Flowers.—No doubt there will, as usual, be abundance of flowers of sorts for Christmas, but there is likely to be a great shortage of that great Christmas stand-by, the Chrysanthemum. A fortnight ago great masses of that deservedly popular Christmas and New Year variety, Baldock's Crimson, were noticed at the R.H.S. Hall, and for some time such sorts as Heston White and Winter Cheer, which are ordinarily January flowers, have been in evidence. There is now a great deal of "rubbish" in Covent Garden—stuff which, in a normal season, would never be sent to market at all. Even if the shortage did not extend to private gardens, which, from what we hear, it does, it would be a great pity that the multitude of the flower-loving public who have no convenience for the production of winter flowers should be deprived of their brightening presence at the festive season. If prices of flowers are not exceptionally high this time, it is rather because of the deplorable amount of unemployment and short time than because of the bulk of cut-flowers on offer.

The Perpetual Carnation.—The illustration on this page depicts the vase of Carnation Lady Northcliffe which recently won for Mr. Englemann the premier award. Looking at the Perpetual Carnation from the standpoint of the flower-lover rather than the exhibitor, it would seem that, judged from the point of view of absolute utility, the chief asset of this plant is its willingness to produce blossoms in mid-winter. Varieties which do this really freely, such as the one illustrated or the "runner-up," Messrs. Allwood's Edward Allwood, are deserving, therefore, of the highest praise, particularly when they unite with this essential quality a beauty of form and colouring and real decorative worth. If the Carnation Society would classify varieties according to their freedom of flower, especially in winter, the information given would be of far more service to the amateur grower (or would-be grower) than any so far given in the classification. It is, surely, for the amateur, and especially the novice, that such classifications are carried out. The big grower knows the peculiarities and individualities of his "flock" well enough. It would, admittedly, be a fine thing to classify Perpetual Carnations by habit, but it is more than doubtful considering the peculiarities of the plant, whether the



THE BEAUTIFUL PERPETUAL CARNATION LADY NORTHCLIFFE.

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A Trio of Booklets.—Mr. Horace Wright's little book on the Sweet Pea* is just what is needed by the novice in Sweet Pea culture, but it should prove of great assistance to many gardeners of admitted cultural skill. Mr. Wright laments the diminution of fragrance in the newer "Spencer" varieties, but though this assuredly is a loss in the garden, most people will find them more welcome for cut-flowers on that very account. Their scent indoors is now pleasant without being overpowering. One statement of Mr. Wright's might, in our judgment, be better for a little modification. He states that "the plant is so hardy that the question of whether or not it will stand through the winter need not come up for discussion." Readers who live in the Midlands or the North will tell another story! Snow, thaw and then frost will, unfortunately, quickly destroy every plant.

Mr. Owen Thomas' booklet on Pruning Roses and Fruit Trees† fills, at little cost, a want long felt by the amateur. Written unaffectedly and without technicalities, it will be a worthy addition to the little library of the small gardener. The only improvement which one can think of would be the addition of an index.

Frankly written for the thousands of people who have little or no other space for plants than their parlour windows, the small book on Pot Plants‡ is worthy of great commendation. There are chapters on the treatment of cut-flowers, on alpines in pots, on window-boxes and on plants for suspending in windows in which brief details are given as to the culture of all kinds of plants suitable for room decoration.

A Clematis That Does not Climb.—How rarely one sees that charming erect-growing herbaceous perennial, Clematis erecta fl. pl., growing in the hardy flower garden, though the popularity of the climbing forms is immense. They are first-class showy plants of great value for tying out to fill the gaps left by early flowering plants such as Oriental Poppies or Pyrethrums. The variety that forms the subject of this note is a rather rare plant, though the single form is much commoner. It attains a height of 3ft. and is one mass of flower from the end of June to the end of September. The plants make large bushes of erect, self-supporting stems, terminating in large umbels of very double white flowers that are splendid for cutting purposes. The fact should not be overlooked that both this and the single form are splendid plants for borders that do not get a great deal of sun. They are often seen flourishing amazingly on north borders where sun only reaches the plants sideways for a brief time when rising or setting, though this must not be understood to mean that they will succeed near fences or beneath trees. The rarest variety is erecta purpurea, a very noteworthy plant, with deep bronzy purple stems and foliage and umbels of creamy white flowers. They dislike prolonged drought, but one really good soaking will keep them going for a long time. Their predilection for an abundance of lime in the soil should be noted.

The Gentian Blue Sage.—Among perennials of recent introduction Salvia uliginosa, a beautiful hardy species from Brazil, occupies a high position and should find a home wherever herbaceous plants are cultivated. When shown before the Royal Horticultural Society on September 9, 1913, it received an award of merit. It is not fastidious in regard to soil or position; almost anywhere will suit it except dense shade. It grows well in a damp but sunny site, but succeeds in the herbaceous border where it usually attains a height of 5ft. or 6ft. During the past season, however, it has not reached above 4ft., though the flower-spikes have been equal to those of previous years. The plant has a graceful, freely branching habit, and the flowers, of which a large number are open at one time, are of a beautiful azure blue. It commences to bloom towards the end of July and continues in full beauty until cut down by frosts. It is very effective in association with Anemone japonica. When the borders are dug over a liberal supply of farmyard manure should be placed in close proximity to the roots, especially if the soil is of a light hungry nature. It is easily propagated from cuttings taken during September and October, which form roots readily in a cool house or cold frame. It should be well worth trying in the bog garden.

* "Sweet Peas and How to Excel With Them," by Horace J. Wright; † "How to Prune Roses and Fruit Trees," by Owen Thomas, V.M.H.; ‡ "Pot Plants and How to Preserve Them," by W. Truelove. All published by "Country Life," Limited, 20, Tavistock Street, Covent Garden, London, W.C.; 9d. each net.

FORTHCOMING EVENTS.

December 12.—National Chrysanthemum Society's Floral Committee Meeting, to be held at the Royal Horticultural Society's Hall, Westminster, at 3.15 p.m. United Horticultural Benefit and Provident Society's Committee Meeting. Bath Gardeners' Debating Society's Meeting.

December 13.—Royal Horticultural Society's Fortnightly Meeting.

December 14.—East Anglian Horticultural Society's Meeting.

OBITUARY

MR. WILLIAM PURDOM.

As we go to press we learn of the sudden death of Mr. William Purdom, which took place at Pekin, China, on November 7. Mr. Purdom was an old Kewite and a well known plant collector in China, where he travelled for Messrs. James Veitch and Sons and the Arnold Arboretum. At the time of his death Mr. Purdom was engaged with the Chinese Forestry Service.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

TREES AND SHRUBS.

SHRUBS FOR GARDEN IN SPAIN (C. S., Spain).—It is more than probable that the five or six months' drought every year, accompanied by a hot south-east wind from Africa, would rule out many of the Acacias from a planting scheme, particularly those like A. dealbata and A. Baileyana, which have pinnate leaves and are partial to moisture. But those with entire leaves, such as A. longifolia, A. pycnantha, A. p. petiolaris and A. cultriformis should flourish. Many of the Eucalypti would also be suitable and a number are quite handsome when in flower. E. ficifolia bears gorgeously brilliant flowers; E. Baileyana, which is more spreading in habit than any other Eucalyptus should, if possible, be included. The fragrant foliaged E. citriodora would probably be hardy and the silvery leaved E. cordata (syn. pulverulenta), which also flowers freely, should be included. Other sorts which are showy when in flower include E. robusta, E. Andreana, E. leucoxylon and E. melliodora; the two last named are eagerly visited by bees when in flower. Flowering shrubs that should prove suitable are Hakea laurina, Protea cynaroides, Lavandula pinnata, Diosma ericoides, Olea fragrans (Osmanthus fragrans), Hypericum canariense, Viburnum rigidum, Metrosideros floribunda, Lantana hybrids, Drimys aromatica, Illicium floridanum, many Cistuses and Helianthemums, Coronilla emerus, C. glauca, Cytisus racemosus, Diplacus glutinosus, Tamarix Odessana, T. tetrandra, Calophaca Wolgarica, Erythrina Crista-galli, Fabiana imbricata, Leptospermum Boscaweni, L. Nicholii and Feijoa Sellowiana. Although Magnolia grandiflora flourishes while the deciduous kinds do not, we should certainly try the beautiful pink M. Campbelli and the fragrant M. fuscata (syn. Michælia).

DESTROYING TREE STUMPS (R. H. S., North Shields).—If any shoots that spring from the tree stumps are presistently removed the stump will die and gradually decay. But should it be desired to hasten this process, the safest method is to bore 1in. auger holes in a downward direction in the trunk and put in about 2 oz. of ordinary saltpetre (nitrate of potash). The holes should be plugged to prevent rains from washing out the saltpetre.

EDGING FOR CLUMP OF TREES AND SHRUBS AND OTHER QUESTIONS (E. S. M., Wilts).—A bordering of Box would be quite suitable and if it were allowed to become a foot or even more high and correspondingly broad, it would give a deal of character to the feature. With regard to the unsightly grass edging of the flower border, this, in the circumstances, would be best replaced by Box Euonymus radicans or the Dwarf Ivy (Hedera Helix minima). Box may be easily propagated if cuttings from 4ins. to 6ins. long are firmly inserted in a shady place during August or September. If slips, about the length stated, can be pulled off and the heel retained, these will root even more certainly than the orthodox cuttings. In fact slips are often inserted in the Box edging in the early spring to fill small blanks and a goodly proportion root successfully. While Cratægus Pyracantha (or better still Pyracantha Lalandei) would probably grow the faster, we should prefer to plant Cotoneaster microphylla, partly because its berries do not appeal so strongly to birds as do those of the Firethorn. To cover the wall quickly it would be well to plant the shrubs at about 5ft. apart. The asphalte close to the house should certainly be broken up before any planting is done. It would be well to make a narrow border, say 2ft. wide, and, after fresh soil has been introduced, this could be planted with such aromatic shrubs as Rosemary, Lavender and Southernwood, with the dwarfer Cistuses and Helianthemums, as well as the wall shrubs. In such a border various sun-loving bulbous plants, such as the newer Alstrœmerias and Zephyranthes candida, could be well grown. The planting could be done in the early spring during moderately mild weather.

FRUIT GARDEN.

PEACH TREE DISEASED ("Thornden").—The Peach shoots are very badly attacked by Peach mildew. The mycelium present is likely to spread the disease next year. The trouble is in no way connected with silver leaf.

APPLES FOR THE GRASS ORCHARD (Felsted).—(1) Except on really strong "Apple" soils, the sorts mentioned do not make sufficient wood to be really suitable for the purpose mentioned. They prove precocious as regards fruiting. (2) Lady Sudeley is an awkward orchard tree, as owing to its peculiar habit of "stopping" itself with flower buds, it extends very slowly and also tends to become congested. This necessitates much pruning, which in an orchard tree is difficult. In addition, its fruits are great favourites with birds and it is practically impossible to protect them on a standard tree.

APPLES, CODLINS AND PIPPINS (A. C. B., Kent).—These terms are evidently of ancient origin. Very little seems to be known as to their derivation or meaning, excepting that the term "codlin" is associated with cooking Apples and "pippins" with dessert varieties of the same. The latter we think refers to the primitive way in which the Apple was propagated, namely, from pips (or seed). We hear occasionally of the pleasant term "Codlings-and-Cream," a delightful combination, always associated in our mind with that oldest and sweetest of our cooking Apples, Chiswick Codlings-and-Cream. However, on referring to the "Dictionary of Gardening" (Nicholson's) for information on this point, we are referred to Epilobium hirsutum, a hairy, hardy, flowering plant! A bit of a shock!

MISCELLANEOUS.

ESTABLISHING BRACKEN (J. S., Montgomeryshire).—The common Bracken is rather difficult to establish in places where it does not grow naturally. If it occurs in the neighbourhood, turves, as large as can be conveniently handled, may be cut in the spring, just as the young fronds are beginning to burst from the underground stems, and set in the ground around the trees where it is wished to establish the Bracken. Should the weather be dry copious waterings will be necessary until rain falls. Another method is to collect fronds in the autumn just before the spores are ripe and raise "seedlings" from them. This could be best done by preparing a piece of ground in a warm, moist place out of doors and laying the fertile fronds over it. In two or three years' time the young Ferns should be large enough to be transplanted. This could best be done immediately after the first heavy autumn rains, taking the young Ferns up in little patches and setting them out at fairly even intervals over the ground. To prevent the growth of weeds in the seed bed, which would smother the sporlings, it would be well to sterilise the surface soil. This could be easily done by making a bonfire in the centre and, when it is well alight banking it down with the soil. When cold the heap should be spread and raked level, leaving all except the large pieces of charred wood.

THE GARDEN

No. 2613.—Vol. LXXXV.] [December 17, 1921

NOTES OF THE WEEK

NOW that Smithfield Fat Stock Show has come and gone, one begins to realise in very truth that Christmas is near. Our next issue, one is reminded, will bear date December 24. Many keen nateur gardeners have leisure at the festive season no have little time otherwise to spare during the nter. For their benefit we propose to devote rt of the issue to a consideration of some aspects the flower seed order. It is hoped that some, any rate, of the information given will be of real rvice to most readers.

The Iris Conference.—There will be found page 643 the programme of arrangements as r as at present decided for the International is Conference to be held next year, and which as been promoted by the Société nationale Horticulture de France, which, among our allic friends, holds a position roughly comarable with that of the Royal Horticultural Society Britain. It is greatly to be wished that British is lovers, whether nurserymen, hybridists or mateurs *pur sang*, will assist the Conference in very possible way. There is a great deal of round-clearing work really necessary in this onnexion. If this is properly to be carried out, hole-hearted support and assistance must be endered by everyone with the requisite plants r information.

The Planting Season.—It is very satisfactory hat the weather remains o open (touch wood !) and he ground in such good ondition for planting. The nly handicap in many cases s the impossibility of obtaing quick delivery from the arassed nurserymen. It s, admittedly, annoying o see good weather pass while the wanted trees are not to hand, but no one can achieve impossibilities, and it is certain that the trade, as a whole, are doing their best to clear off arrears. There is, it is true, no shortage of unskilled labour, but this can, of course, only be employed to a very limited extent on work of this kind. It must be evident that an autumn so awkward as the one w have passed through will always leave a legacy of trouble for nurseryman and planter alike. It is a little unkind, therefore, to wo

cause he fails to achieve the impossible. A few more weeks of open weather are greatly to be desired.

The Tomato.—Many market growers who go in for early crops will now have had their Tomato seeds sown some weeks, but for ordinary summer work, good trade growers are agreed that about the time of the shortest day is an excellent time to sow. By the time the seeds have germinated the days are beginning to lengthen and the average light to improve—this last is the more important point—so that there is distinctly less risk of the plants becoming drawn and attenuated or damping off. The mycelium of the fungus which causes this disorder "runs" much more readily in dull weather, especially when the air is moisture-laden as, until Christmas, it is very apt to be. Private gardeners often put off the sowing of Tomatoes too long, thus missing a portion of the season without any compensating advantage. Once they are planted out in their permanent quarters but little heat should be necessary, even for plants sown before Christmas. The spring months are, as a rule, fairly open and bright and sun heat is a great help. Moreover, every grower knows that even in summer there are dull, damp days when, if fire heat is not essential, it is, at any rate, eminently desirable.

Christmas Flowers.—No doubt there will, as usual, be abundance of flowers of sorts for Christmas, but there is likely to be a great shortage of that great Christmas stand-by, the Chrysanthemum. A fortnight ago great masses of that deservedly popular Christmas and New Year variety, Baldock's Crimson, were noticed at the R.H.S. Hall, and for some time such sorts as Heston White and Winter Cheer, which are ordinarily January flowers, have been in evidence. There is now a great deal of "rubbish" in Covent Garden—stuff which, in a normal season, would never be sent to market at all. Even if the shortage did not extend to private gardens, which, from what we hear, it does, it would be a great pity that the multitude of the flower-loving public who have no convenience for the production of winter flowers should be deprived of their brightening presence at the festive season. If prices of flowers are not exceptionally high this time, it is rather because of the deplorable amount of unemployment and short time than because of the bulk of cut-flowers on offer.

The Perpetual Carnation.—The illustration on this page depicts the vase of Carnation Lady Northcliffe which recently won for Mr. Englemann the premier award. Looking at the Perpetual Carnation from the standpoint of the flower-lover rather than the exhibitor, it would seem that, judged from the point of view of absolute utility, the chief asset of this plant is its willingness to produce blossoms in mid-winter. Varieties which do this really freely, such as the one illustrated or the "runner-up," Messrs. Allwood's Edward Allwood, are deserving, therefore, of the highest praise, particularly when they unite with this essential quality a beauty of form and colouring and real decorative worth. If the Carnation Society would classify varieties according to their freedom of flower, especially in winter, the information given would be of far more service to the amateur grower (or would-be grower) than any so far given in the classification. It is, surely, for the amateur, and especially the novice, that such classifications are carried out. The big grower knows the peculiarities and individualities of his "flock" well enough. It would, admittedly, be a fine thing to classify Perpetual Carnations by habit, but it is more than doubtful considering the peculiarities of the plant, whether this will ever

THE BEAUTIFUL PERPETUAL CARNATION LADY NORTHCLIFFE.

THE PERGOLA AND ITS PLACE

There are few more attractive garden features than a well designed and well placed pergola, few more dreadful than one badly proportioned and unhappily situated.

THE inane desire for rustication which was so characteristic of the latter half of the Victorian era has happily largely passed away, and elaborate rustic-work arches, tunnels and summer-houses are, in gardens of the better class, almost things of the past. That there is still a demand for such things, however, the writer knows too well, since it is his lot to pass each morning in the train on his way to town a veritable menagerie of them in a maker's yard.

A really substantial and expensive pergola is not in these days within reach of everyone's pocket, nor would it always be desirable if it were; but if we are to have a pergola we can, at least, let it be simple, direct and unostentatious. Architectural it need not be, nor need its timbers be meticulously squared and fitted. That is not to say, however, that it need be barbarously constructed of rustic-work, an abomination comparable only to the "tombstone" rockeries and the "rooteries" we all of us remember so well.

Plain oak posts and crosspieces, strengthened and stayed by angle pieces, if that is thought necessary, will form a simple pergola for an unpretentious garden, but if the house with which they are to be associated has any pretensions to dignity, brick or stone should be resorted to for the pillars.

A simple, inoffensive type of pergola is often advertised in our columns which is sold at "per arch," with an additional charge at per foot for the "top-hamper" which completes the pergola. This should be very useful for the narrow strip which so often represents the suburban garden. It is, at least in the standard pattern, too "narrow gutted" to be suitable for gardens of any size.

A common fault with pergolas of the better class as regards materials and workmanship is

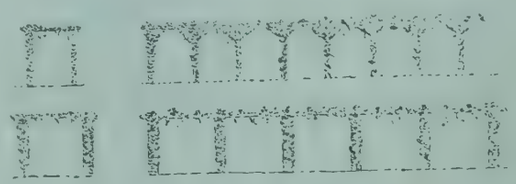


FIG. 1 SHOWS, ABOVE, A SPACING SUITABLE FOR A PERGOLA IN WOOD; BELOW, A WELL BALANCED SPACING IN STONE.

to have the cross timbers much too close together. They should not, even when smothered in creepers, give the impression from either end of a continuous roof. Another common fault, and one more difficult to remedy, is over-elaboration in the pillars. There are situations, admittedly, where a pergola in the best Italian manner with classic columns suits the picture to perfection. Ther are others where such a feature would be entirel out of place. On the other hand, the writer ha yet to see the site which calls for pergola pillar rough-casted in broad bands, interpolated, as i were, between narrower bands of tiles in cement One cannot help feeling that the designers of suc

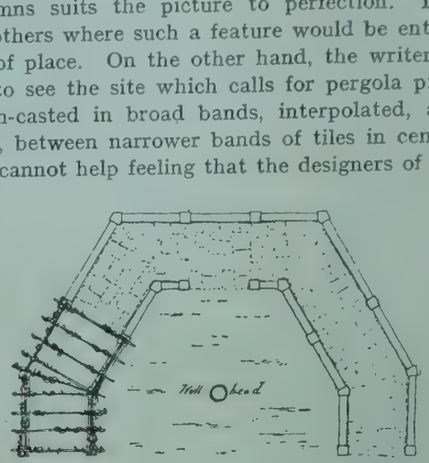


FIG. 2 GIVES A PLAN FOR A PERGOLA ARRANGEMENT WHICH WOULD SUITABLY CLOSE A VISTA.

gaudy erections were out rather for originality than for beauty, for notoriety rather than fo fame. Many pergolas, too, are hideous in thei unnecessary elaboration.

Just because nature, in our country at any rate gives at all seasons a restful impression to th mind, it behoves us in our garden ornament t

AN UNUSUAL EFFECT. THE PERGOLA IS SELDOM THUS USED FOR TERRACING

have recourse to quiet colouring and quiet, unostentatious beauty.

It is a great improvement to any pergola—an improvement at once of practical utility and æsthetic value—for the path which traverses it to be paved. Because the pergola is, or should be, formal in conception, so the flagstones should be rectangular. "Crazy" paving in such a position gives a rather spotty effect. Generally speaking, rectangular random paving looks equally as well in such a position as does that laid crosswise of the pergola, which is, in the trade, called coursed random. For pergolas of considerable size and solidity of construction the floor is often patterned in simple designs—circles, diamonds, stars or polygons in the same

"John"—this is a typical remark—"Mrs. So-and-so's pergola looks simply lovely—we must have one." There only remains, obviously, to dump one down and await results! It is not surprising, therefore, that the results are often far from satisfactory.

Among the first questions, when designing or redesigning a garden, should be considered whether it will carry a pergola and, if so, what position should be allotted to it. The pergola is an architectural embellishment which usually has greater influence on the general appearance of the garden than any other artificial garden feature.

A pergola should seem to serve a definite purpose. It should either connect the house or a

The would-be pergola builder is strongly advised to get out first of all a general plan of the garden in which he purposes to put it and to mark thereon his pergola, studying carefully how best to attain the necessary balance. That point decided upon, let him set up elevations both along and across the pergola. It is quite safe to prophesy that when he has got his proportions so that they look right on plan they will look right if and when the work is carried out. Many a would-be designer has spoiled a pergola by thinking his pillars, commenced according to plan, looked too big. He has reduced a few inches and when they were up, behold they looked too "skimpy." Emphatically it is best to trust to the plan. Proportion does not change by enlargement. Now as to the

A GLIMPSE OF A BRICK PERGOLA, WHICH SHOWS HOW EFFECTIVE A MEDIUM BRICK CAN BE.

A WELL BALANCED ARRANGEMENT OF PERGOLA AND PAVILION. PROPORTION IS ALL-IMPORTANT.

or differing material. The stone flagging of a pergola looks best of all self-faced hard York paving which is cleft from the hard laminated rock which overlies the homogeneous beds of York stone. This material cleaves up into slabs of sufficient thickness for our purpose, and it possesses a beauty of texture and marking which no sawn [illegible] can give. Some of this stone is of a [illegible] grey, some of a bluish shade. The latter is generally a little harder, but either are excellent in every respect.

It is very remarkable how haphazard many people are in their selection of a site for the pergola

pavilion or summer-house with some other definite garden feature, or it should balance the house or some weighty garden building. It often happens that it may be made to carry out both purposes simultaneously. If this can be done, so much the better. Nothing in a garden can look worse than a pergola which appears to have got lost. The "lost" effect is often increased by the amateur designer forgetting that weight must be balanced by weight. A pergola running down one side of a strip of garden where the remainder of the garden is "flat as ditchwater" must of necessity look disproportionate and ugly.

finish to put on the materials. If the pergola is of dressed stone with proper copings and pillar cornices and caps, the joints should be finished as closely and inconspicuously as possible. If constructed of brick or rough stone—either coursed or random—the joints, instead of pointing, should be raked back with the proper tool. The hollow effect this produced is very effective when the material has a weather. Brick pillars especially if capped with York stone look very well in a pergola, but the bricks should be like-burnt and of a nice colour tone, and, if at all possible, they should be sorted. The so-called facing bricks

which are in almost universal use in the Midlands and which, as laid, work seven courses to 2ft., are monstrously ugly in shape in a house—far more ugly in a pergola where there is no length of walling to help take off their bloated proportions. Almost as ugly as stucco and tiles is the brick pergola with specially wide joints pointed in white lime mortar!

Pergolas are nowadays often carried out largely in iron. They are often quite successful, though the material will never allow them that perfectly restful finish which is so very desirable. None

ANOTHER WELL BALANCED ARRANGEMENT.

Small, disconnected beds, such as the one shown, should be avoided.

the less, beauty of proportion and adequate arrangement will make them really effective.

Planting Fruit Trees.

WE are advancing in the fruit planting season, but it will be many weeks, perhaps months, before the last tree goes to its allotted place, and there is a fair chance that the last will thrive as well as the first. Given careful attention to simple details the results will depend more on the condition of the soil than on the actual week or even month of planting. It is clear that no work of this nature can be undertaken when the earth is iron-bound by frost, covered inches deep by snow or sodden; but with open conditions, favourable equally to trees and workers, the task should be pushed on with all speed.

It has been said, and the authority is accepted as an excellent one by many people, that time spent on overhauling roots prior to their consignment to the ground is wasted—that, in fact, roots that are torn and broken will do as good service to the tree ultimately as those which are in a perfect state. It has been accepted by gardeners that all roots must be closely examined, and that any which are badly bruised, torn or broken shall be cut back to sound, healthy tissue; that a sharp knife which will leave a clean wound shall be used in the process, and that the cut shall be from underneath upwards and outwards so the wound shall lie down to the soil and not the soil lie down to the wound.

The reasons that these points have been scrupulously observed are that injured roots afford easy opportunity for the spores of wound fungi — canker of pippin fruits and gumming of stone fruits, to wit—to gain admission, and that smooth, clean wounds callus quickly and completely and consequently develop a superior power to throw out the roots essential to the well being and progress of the tree. These are thoroughly sound reasons, and the time required to carry out the details may fairly be regarded as quite profitably spent. After all, the practical man with a good knife can inspect and trim the roots of a dozen trees in a very short space of time.

Directly associated with the perfect condition of the roots when planting is completed, comes the question of staking, of course. Standard trees are not now as extensively planted as they were a couple of generations ago, while half-standards are selected only for positions especially suitable for them, or for particular reasons connected with their habit of bearing. Where, however, as in orcharding, trees trained in standard form are imperative, staking becomes a necessity, and the support, no matter what its nature may be, must be driven down before the roots are set. To provide the time needed carefully and skilfully to trim all roots and then to drive through them a stout, sharply pointed stake is an error which should not be made, though it has been made not simply in hundreds, but in thousands of instances. It is a wise, indeed a necessary, rule accurately to plan the area to be planted before a spit of soil is moved; the site of each tree is therefore predetermined, and the simple result is that the stakes can be inserted in their correct positions in advance without any trouble.

The condition of the roots, from a totally different point of view, must have consideration also. It is conceivable that in transit they have become very dry, or that dryness has come about through something over which there was no control after the trees had reached the buyer, and in that state they should not go to position. To enable them quickly and satisfactorily to proceed to establishment they must be plump, and to that end they should have a thorough soaking in a vessel of water for a period which may extend from twelve to twenty-four hours.

We may now pass to what ought to be considered the most important point in planting, that is, the manner in which the task is carried out. The old rule of gardens favours the shallow, inverted saucer-shaped station, the base of which consists of new mould or, failing that, of some of the best material from the top spit; the diameter and the depth will necessarily vary slightly with individual trees, but the former will be large enough to admit of a surround beyond the roots of new mould or best top spit not less than 6ins. in thickness, and the latter will allow for about 3ins. of similar material above the topmost layer. The roots will be extended to their utmost length, and soil will be worked between them in such a manner that they have a continuous slightly downward direction. All stations or holes are taken out in advance, and the small corrections required to fit them to the trees are done when planting is in actual process.

The point at issue is whether all this trouble is necessary—whether, indeed, it is desirable in the interest of the tree and its owner? It is not suggested that the tree which is planted in this admirable manner will not flourish, but rather that it will flourish a great deal too well in the interests of comparatively early, satisfactory and maintained fruitfulness.

One is forced to the conclusion that it is not simply unnecessary, but markedly undesirable. The labour involved in carrying out the details is misdirected, because it has a natural tendency to encourage gross growth which goes, indisputably, to the formation of a handsome tree; but one which, equally indisputably, has to undergo further manipulation, demanding additional labour, before it becomes a profitable tree, and that, after all, is the sole sound reason why a fruit tree is planted. Provide a tree with healthy roots, and for their reception take out two, three or more spits of soil as may be necessary to afford them accommodation and nothing more, and the final point of planting is reached.

The roots must be packed in, and the old rule says that it shall be done firmly. Let us revise this somewhat and say that it shall be not firm simply, but hard to a degree of hardness, which can be insured only when a rammer is brought into service and used with that abandonment of strength which is known to be imperative when a gatepost is set in position. Ordinary treading is not sufficient to give that hardness which encourages the finest rooting system, which, in its turn and time, builds up the thrifty, profit-producing tree.

W. H. LODGE.

AN INVALUABLE SHRUB.

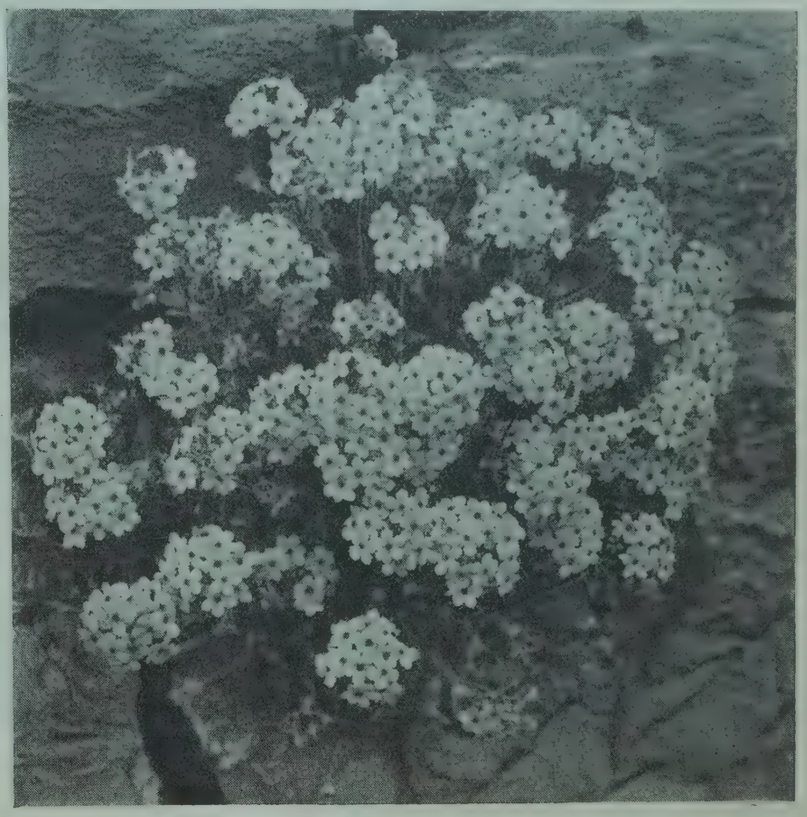
IT is always a pity to see the attractions of some fine-berried shrub necessarily guarded by a net, and it is fortunate that some shrubs have a second and non-edible string to their bow. Cotoneaster horizontalis is one of them. Most of its once numerous berries turned into birds and flew away long ago, but the foliage, this year especially, has assumed a fine bronze colour which is quite a creditable substitute. Berries and autumn colour apart, however, the shrub is well worth growing for its habit and normal foliage. A fine specimen growing beside some stone steps was illustrated in THE GARDEN of December 4 last year.

THE ROCK GARDEN AT THE ROYAL BOTANIC GARDENS, EDINBURGH.

IT was about twelve years ago that M. Correvon, quitting his own wonderful rock garden at Floraire, Geneva, visited some of our British alpine gardens. Recording his impressions of the tour thus made, he wrote: "after seeing all these places I went to Edinburgh, and I saw there, in the Botanic Gardens, alpines which I knew only by reputation. I went there as a pilgrim to a shrine, and I should never have imagined that such rare and choice plants could be made to flourish together. Words fail me to express my enthusiasm. Everything is flourishing to an extent I have never found elsewhere. Professor Balfour is an enthusiast, *pur sang*, and loves plants in a way I have seldom seen."

Here, then, we have an expert laying his finger unerringly on some of the most important features of this great rock garden at Edinburgh, features that will also strike the casual visitor of to-day. There is, for instance, the amazing variety of rare plants, and the vigour and health with which everything seems to grow. Again, it is most interesting to see how plants from all parts of the world do indeed "flourish together," plants from the hot climates of Peru, New Zealand or Central Asia living happily side by side with those from northern regions. Another attractive feature is the natural, one might well say, the rugged and wild scheme to which the garden is laid out. Massive piles of rock rise to a considerable height here; there we find a miniature valley or a narrow winding path between diminutive mountain sides. In another part lies a smooth, quiet level, with a little bog fed by water brought from an overhanging cliff. All is so cunningly arranged that one does not realise at first the skill that underlies this apparent wildness, and there is nothing niggardly or artificial in its conception as a whole. It is a pleasant thing to stand in many parts of the rock garden and see nothing but sky and rock and vegetation round one. Were it not for the clang of the passing trams and the hooters of a busy city, it would be easy to forget the houses and streets which encircle one.

An interesting point emphasised by M. Correvon is that the plants are loved—in other words, they are studied, humoured, even coaxed; and the outcome and general result evident to a visitor is the health and well being of the plants there. It is not always easy to trace the expert care and the methods used to accomplish this outward and smiling achievement. If we look carefully, however, we may learn many valuable cultural lessons. How the Celmisias are persuaded and deluded with a very fair reproduction of a New Zealand hillside. They are proverbially fussy plants, yet you will find here many species, including C. Munroi, C. coriacea, C. petiolata and C. verbascifolia, all doing well and blooming in early summer. From other sunny lands come Calceolaria plantiginea (Chili), Pentstemon imberbis (Mexico), Onosma albo-roseum (Asia Minor), Nepeta kokamirica (Turkestan), Hypericum patulum (China and Japan), Bæria coronaria (California), Erysimum nanum (Persia), Armeria cæspitosa (Spain and Portugal) and so on. Side by side with these sun-lovers we find thriving vigorously plants of the north, such as Bryanthus empetriformis, Chrysanthemum arcticum, Andromeda polifolia, Empetrum nigrum and Androsaces. Here and there one may find a plant sheltered by a sheet of glass or queer, oily-looking, transparent paper, but even this is quite surprisingly rare considering the rigorous climate of Edinburgh, which is as bad as any part of Scotland, chiefly owing to the bitter winds. It is useful to note these few plants that need extra care, and the quaint little tufted Sedum pilosum was one that had protection this winter, while Gentiana lutea was another. In fact, a colony of this tall, yellow-flowered Gentian is honoured with a whole frame-light, with the result that particularly flourishing rosettes of hairy leaves push up each March.



THE VERY BEAUTIFUL ANDROSACE CHUMBYI.
A cross between A. sarmentosa and A. villosa, this is one of the easiest and most beautiful forms.

On the lower levels, in the cool, moist positions that they love, we find a large variety of Primulas, while Brooms and Rock Roses are given the highest and driest peaks in full sun. Again, if we care to notice, we may see how Æthionema schistosum from Asia Minor and the tiny Daphne petræa from the Tyrol are tucked away into crevices, and how Primula Winteri sits snugly under an overhanging rock. There is a peaty, damp ledge for the two Japanese inhabitants, Schizocodon soldanelloides and Rhododendron Tschonoskii, and stone clippings for those who prefer it, like Silene acaulis and S. pumilio, Saxifraga Burseriana and Campanula planiflora from North America. In the bog there is the gay little orange-flowered Trollius yunnanensis and T. patulus, a rare Primula or two like P. involucrata, various species of Caltha, Ranunculus and Lysimachia, and a truly marvellous collection of Gentians. These Gentians seem so perfectly at home in the more open, sunny part, and come from such curiously different places, that a short list of the rarer kinds grown here may be of interest to show how various and

SCHIZOCODON SOLDANELLOIDES. THE PLANTS ILLUSTRATED ARE VAR. ILICIFOLIA.

widely distributed are their native homes: G. Fetisowi from Turkestan, G. Andrewsii and G. alba from North America, G. brevidens from Japan, G. Burseri from the Pyrenees, G. depressa and G. tubiflora from the Himalaya; G. Olivieri from Central Asia, G. Farreri from Kansu, G.

EFFECTIVE MASSES OF THAT BEAUTIFUL JAPANESE SHRUB, MAGNOLIA STELLATA.

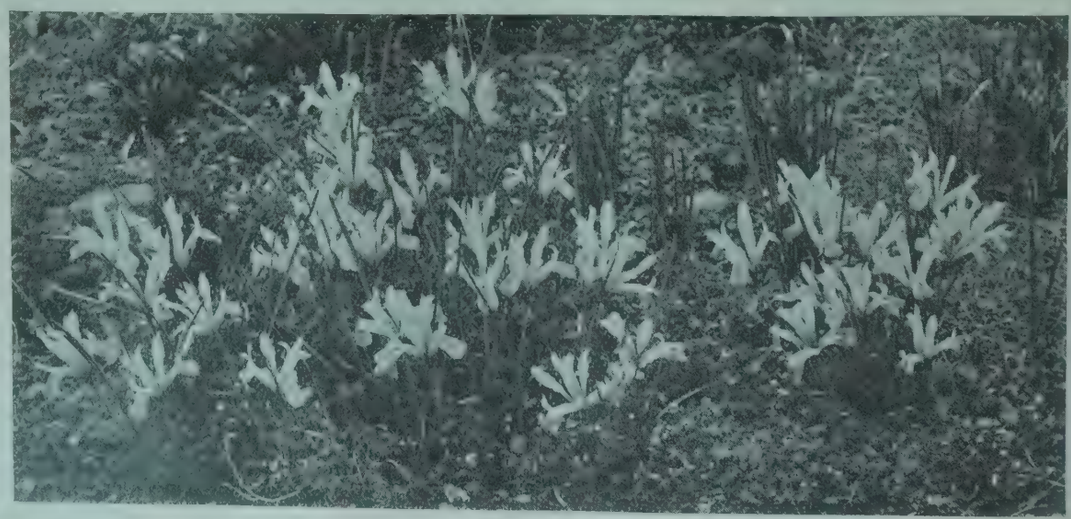
excisa from Europe, G. straminea from Western China, and many others.

If we look up from this low-lying ground to the topmost peaks and ridges round us, we find there how different are the plants used, those that prefer sun and dryness and an open situation, albeit a windy one. Here are Genistas and Cytisus in great force, and they flourish extraordinarily well. In this rock garden the kinds are numerous and varied. With them they bring, more than any other plant, perhaps, the quality of sunshine. From April to late July they give in succession a wealth of bloom, from softest creams to purest gold, that has the gift of prodigality and the effect of sunlight. In habit and stature they vary in a delightful manner. There is the curious wing-stemmed Genista sagittalis, the spiny G. anglica and G. germanica, or the tight little humped G. aspalathoides which grows but a foot or so high. The little creeping Cytisus Ardoini has embraced nearly a whole bluff with its soft shoots; there are showy, drooping garden hybrids like C. Beanii and C. kewensis; while the tall, upright C. nigricans, though common, is useful to carry on blossom into late September, and I have also seen Genista capitata and G. tinctoria var. mantica flowering at quite the end of that month. G. dalmatica, which forms a pretty, fresh green carpet set with low spikes of small yellow flowers, should be remembered, as it blooms in July and bridges a gap between the early and late species.

But Brooms are not by any means the only plants chosen for these high, exposed situations. All the Cistus tribe are particularly at home there, and such species as C. populifolius, C. allysoides and C. monspeliensis have grown into large specimens. Many Veronicas are used, too, nearly all from New Zealand, like V. parviflora, V. epacridea and V. monticola, which bear nice evergreen foliage. Yucca gloriosa and a nice group of Y. filamentosa var. antwerpensis look extremely well planted boldly so that their spiky leaves look highly effective against the skyline at all times of the year. In another part a big break of Berberis stenophylla is used as a shelter belt, and Skimmia Fortunei on a high ledge gives pleasant winter colour with its red berries. On a high ridge we find a group of Magnolia stellata is evidently at home; the little Rosa nitida seems equally so on another rock. Large stretches of many kinds of Ericas add variety to the scene, and several species of Rhododendrons live on the highest parts; in fact, the topmost cliff of all is completely clothed with the little bushy R. ferrugineum and R. hirsutum. The garden, indeed, is rich with a rare and wonderful collection of Rhododendrons, but others especially grown on these exposed ridges include R. ciliatum, R. ovatum, R. setosum, R. micranthum and R. Cunningham's Sulphur.

One may go to a botanic garden in various moods. Perhaps to simply wonder and enjoy, to steep oneself in colour—this may be our craving for the moment. If so, we can find much to satisfy and enchant us in the rock garden at Edinburgh. There is, for instance, a low stretch that flames in late March with the tiny Primula rosea planted generously and growing in perfection. For many years I found a wide ledge entirely covered from summer to late autumn with the brilliant orange of the Gazania. Last July there were breadths of Aster diplostephioides and A. sub-cœruleus, whose whole vivid mauve, orange-centred flowers were a joy to see. If it is blue that especially charms us, there is the intense little Lithospermum graminifolium or the light pure colour of the glorious Indian Poppy, such as Meconopsis sinuata. Or if it is tender shades we find pleasure in, there is a sheet of Erica mediterranea hybrida in winter, or in July the ethereal pink and grey combination of flower and foliage to be seen in a plant like Centaurea pulcherrima from the Caucasus. If it is purity of form and outline that most appeals to us, we can rejoice in the lovely bells of Codonopsis ovata and C. clematidea or in the large, open cups of Anemone sulphurea each with their big central boss of stamens. Again, one may go with definite intent to learn, to note the "easy doers" perhaps, or those that are showy and bloom over a long period, and therefore of value for our own rock gardens at home. We may go to see which plants thrive in sun or shade, what kinds require sheltered nooks, which will brave the open places where swirl the proverbial east winds of Edinburgh. It is interesting to see how well some plants do in deep shade. A host of perennial Candytufts like Iberis Jordani, I. Pruiti, I. pinnata and I. correæfolia seem excellent for this purpose. Violas, too, do well, and Chrysanthemum arcticum, Armeria sibirica and the creeping Antirrhinum Asarina. It is interesting to mark how some of the hardiest, more easy-natured plants are literally made to grow and beautify the sunless, poor and draughty places. Here the commoner Campanulas are largely used and flower contentedly. Hypericums and that refined Willow-weed, Epilobium rosmarinifolium, give good stretches of colour. Hellebores, Corydalis bulbosa and Iris reticulata do splendidly under some trees.

Last, but not least, in this great rock garden, with all its wealth of rare alpines, there is also a wealth of information and everyday help to be



MOST WELCOME IN WEARYING WINTER DAYS—IRIS RETICULATA.

gleaned for planning our own rock gardens at home. There are plants we can see in flower and decide whether they are showy enough, bloom long enough, are robust enough for our own purposes. A very large number can be studied, and many, though perhaps rare, are suitable, and a few names of easily grown species may lead the way among these lesser-known plants. The Brooms, for example, are indispensable, and any of those already mentioned are worth a trial. Polygonum affine is not as well known as it ought to be with its innumerable succession of little pink spikes lasting all through the summer and autumn, and the bright russet of its dead foliage in winter. In the Erigerons we have a most useful class, and E. montanensis and the tiny spreading E. flagellaris might well be added for the freedom and length of time with which they flower. For the same reason the beautiful white Linum monogynum and a Dracocephalum such as D. tanguticum might be tried, also the cherry-coloured Potentilla nepalensis Willmottiana. Many of the Viola species, like V. gracilis, give fine colour, and where Heaths will grow Erica cinerea rosea is particularly brilliant and showy. For the winter we should remember the delightful little Rhododendron moupinense, with its big white flowers, or the slightly taller and more straggly R. parviflorum, which has crimson flowers. By the end of March the bright pink little R. Metternichii from Japan is fully out, and two easily grown Saxifrages are the yellow Saxifraga apiculata and the white S. Petraschii. For later on in the year there is the fine Hypericum olympicum, a really useful border or rock plant, while of the many floriferous Campanulas the rare C. Kolenatiana from the Caucasus surpasses all others with its countless 15in. stems, each set with six or eight large purple-blue bells. Lathyrus vernus is attractive for its quaint mixture of purple and blue; the var. cœrulea is more blue than purple, while both grow and bloom freely anywhere, even under Pine trees.

The above short list may encourage us to try others. A fine rock garden like this one at Edinburgh, although part of a botanic garden, can be of untold pleasure as well as value, and fulfils many needs. The most casual visitor absorbs some of the beauty and refreshment round him without knowing how it happens. The enthusiast who comes "as a pilgrim to a shrine" will not be disappointed. He will find all and more than he ever hoped for. The everyday garden-lover will roam about happily, taking a few notes, perhaps, here and there of plants that especially appeal to him, laying many lessons to heart while enjoying the flowers. There is, in fact, something for everyone.

M. E. STEBBING.

ANCIENT AND MODERN

A plea for the now too much neglected Conifer and for a better balance of effect in planting.

IN the last few years there has been quite a marked change in the selection of trees and shrubs, both for garden border planting and for specimen work in isolated positions. One wonders if such planting as is being done now will have the same effect on our landscapes as, for instance, is given by the occurrence, more particularly in the London and Southern districts of England, of the beautiful Cedars both of the Lebanon and of the Mount Atlas Cedar (Cedrus atlantica), and again of Cedrus Deodara. Of these undoubtedly for beauty of outline the Cedar of Lebanon would be considered by the majority to take the premier place, but the Mount Atlas Cedar has one great merit which in these days of haste must carry weight. It is a faster-growing tree, and when mature is exceedingly difficult to separate from the Mount Lebanon form. It is strange, too, considering the great difference there is in a young state between these two forms and the Deodar, how often a really large tree of the latter may appear at a distance to be so like the others; indeed, one tree known to the writer in Surrey has a very Lebanon-like appearance, being flat topped and having the heavy lateral boughs so characteristic of this species. Whatever modern planters may be aiming at, they cannot but admire some of these wonderful Cedars such as were planted many years ago at Dropmore, Goodwood and many other places in the South, and which at the present time are outstanding in their beauty and by contrast with our native Oaks and Beech are the more noticeable. Then, again, notice the many magnificent specimens of the Sequoias, both S. gigantea, better known as Wellingtonia, and of the less-known Sequoia sempervirens, or Redwood of California. Nothing can be more beautiful in its way than a vigorous tree of the latter, showing as it does a wonderful tinge of reddy brown in the stem, giving in sunshine a lovely effect of light and shade. The Wellingtonia is seen at its best in the neighbourhood of the Duke of Wellington's property in Hampshire, and a very fine avenue is to be seen leading from near Wellington College Station to the Finchampstead ridges. These trees are some 60ft. in height, and look in prime condition and give promise of being as good as any in the country. Fine trees of this species are to be found in many Southern gardens, and while not being one of the most beautiful of conifers, it certainly is, as a large tree, an impressive sight. An exceedingly fine effect of it is to be seen at Perring Hill Park, Bagshot, in conjunction with Libocedrus decurrens. A circular clump 40yds. in diameter is planted with these two fine conifers at a distance of 20ft. apart. They are now about 60ft. in height and present a noble appearance. On this same property are to be seen other fine examples of Wellingtonia, and especially one standing close to the house. The Redwood is also well represented here. Another very beautiful conifer to be seen in these grounds is the Western Hemlock Spruce—Tsuga Albertiana. This fine tree has, in the writer's opinion, only one drawback—it is a difficult tree to transplant. It has many merits, however. When well established it grows very quickly, holds its foliage and lower branches well, and forms a very graceful feature in any landscape. It has also a further great merit in seldom losing its leading shoot, as many of the genera Picea and Abies are apt to do.

Another feature of great interest in this beautiful little park at Bagshot is the Holly hedge which surrounds the whole property. The length of it is about two miles and one section has been allowed to grow upwards and is now for a distance of 150yds. 45ft. in height. At the base it is about 15ft. through and is clipped wedge shape, the men having ladders resting on the hedge itself to do the clipping. Unfortunately, a piece of this hedge was burnt about twenty years ago, which partly spoils it, but enough is still there to present a fine feature, and it is probably one of the best bits of Holly hedge in the country It is a planting of this kind to which this article refers.

Nowadays it is very rare to hear of a Holly. hedge of any great length being planted. It is usually Privet inside a wire fence or something having only the merit of being cheaper at the outset. There is, of course, another side to the picture, and it may reasonably be urged that in the past plantings of certain conifers were carried to excess, and the injudicious use of certain Cypresses and Retinosporas has given a distaste for their present use with which the writer fully sympathises. On the other hand, it is very easy to criticise modern planting where one sees groups of flowering shrubs plotted in little jig-saw puzzles. frequently without any regard for their eventual development and rarely relieved by good evergreens, which are indispensable for winter effect.

There are four distinct seasons of beauty possible in group planting. Spring with its fresh tints of green and early flowering trees and shrubs; summer with its wealth of foliage and masses of flowers; autumn with the wonderful tints of colour on changing leaves; and, finally, winter, depending on the berry-bearing plants, and to even greater extent, the fine effects which can be obtained by the use of good evergreens and conifers.

One would not like to see a revival of indiscriminate planting of conifers, but bearing in mind the grand effects which can be obtained by the use of the better kinds, planters would do well not to omit them altogether, and it might be some satisfaction to know that one was doing something for posterity, but which at the same time would give one pleasure in watching the gradual development of the young tree visualising what it may attain in future years.

F. GOMER WATERER.

CAMELLIAS IN THE OPEN

THERE is no doubt that many people would grow Camellias in the open did they realise how hardy they are. That they can stand as much frost as a Laurel is the common experience of those accustomed to them outdoors. In very cold districts it may be desirable to wrap a little fern around the stems during winter—that part of the shrub being the most susceptible to frost—but here in the West, though we are some miles from the sea, our Camellias get no protection whatsoever and they are never affected by frost.

Camellias, however, dislike wind, and appear to do best in the half shade of tall trees where they can get some shelter and, if possible, a westerly aspect. Our lime-free woodland loam, which grows Rhododendrons and Azaleas well, suits the Camellia admirably, and it flowers abundantly. One has sometimes to be patient with newly set-out plants, the reason being that these are so often old indoor pot-bound specimens. It is not wise to endeavour to loosen the roots of such, and we find that if they have plenty of sharp sand and leaf-mould packed well round the ball at planting time they will recover, grow away and flower in a year or two They must not lack moisture in dry summer weather, and during that season a good mulch of old cow manure, leaf-mould and sand (or gritty loam) is a great help

Some Camellias will, of course flower more freely than others, and it is advisable to plant only the

later kinds where the situation is open to the morning sun. The varieties with broad rounded leaves appear to be rather more robust in habit than those with the narrower and more pointed foliage. One of the most regular bloomers here, and one of the most pleasing, is C. Donkelarii, the semi-double flowers, in rich crimson-scarlet with a few golden stamens, being most effective against the dark, glossy green. The old Double White is also an excellent one of its kind and very beautiful. The large-flowered Chandlerii elegans, soft rose and semi-double, can also be recommended for planting in the open, since it is one of the later bloomers. There are many other beautiful varieties listed by nurserymen who supply these plants, but I suppose C. reticulata is generally considered the "pick of the bunch." Of this magnificent Camellia I cannot speak from experience as a grower, but quite a young plant (and it was not a healthy one) put against a west wall two years ago is now carrying a bud on every twig.

North Wales. A. T. J.

Large-Flowered Single Chrysanthemums

A résumé of progress in this class of Chrysanthemum, with some of the best varieties to date.

CONSIDERING that the Chrysanthemum has been grown extensively in this country for some fifty years (it is sixty years since Robert Fortune sent home from China the first Japanese varieties), we have been a long time realising the great decorative value of the single-flowered varieties. Just a few sorts—Miss Mary Anderson, Ladysmith and Golden Star, for example—used to be grown, but these were chiefly valued as being suitable as dwarf pot plants. The number of good singles gradually increased, until it seems as if quite recently they have "come with a rush" and there are more than plenty to choose from. The increase of late has been with what is termed the large-flowered singles—those which, according to the National Chrysanthemum Society's classification, have a diameter of 3ins. and upwards. The examples are Mensa, Merstham Jewel, Mrs. John Peed and Edith Pagram. In respect of examples it is interesting to note that Miss Mary Anderson is still considered a typical small-flowered single Chrysanthemum, and one may hazard with fair safety that Mensa will long be retained as being the type of the ideal single, though it is more than probable that when the classification is revised and additional sections are made it will be under another heading.

This inevitably suggests that in many respects a number of the newer varieties are not great improvements on the old, and, except in colouring, it must be conceded that this is true of the small and what one may term the medium-sized varieties. The rich colours of such as Mavis and Lady Astor, M.P., are decided acquisitions, and they also possess good form and the substantial quality of petal that ensures a long period of usefulness when cut and arranged in vases.

But most of the really large-flowered varieties have a distinct tendency towards "floppiness" and do not last longer than a few days unless they are grown very skilfully. This need for expert cultivation, if it continued, would inevitably be the undoing of any flower that otherwise would become immensely popular. One of the great points in favour of the singles always has been that they are so easily grown well that almost anyone can produce really good flowers with a minimum of trouble. Added to this is the equally important fact that good types remain fresh for quite a fortnight and even longer under fair conditions.

SCARCELY LARGE OR FORMAL ENOUGH FOR A TYPICAL LARGE FLOWERING SINGLE, GOLDEN MERSTHAM JEWEL IS A PARTICULARLY GRACEFUL VARIETY.

With these considerations in mind one welcomes the great improvements that are being made in the quality of the large-flowered types. Quality of flower, which really amounts to substance that ensures sufficient rigidity for the petals to retain their correct horizontal position, and good round form seem always to go together. This advantage is of course a natural correlation. Of this year's novelties one would be inclined to select the variety Mrs. J. B. Minchin, of which an illustration is subjoined, as being the ideal of the large-flowered type. It has

THE BEAUTIFUL NEW SOFT BRONZE SINGLE CHRYSANTHEMUM, MRS. J. B. MINCHIN.

perfect form and quality, and that Mr. W. J. Taylor, the raiser, did not receive an award when he showed it is due to the fact that only two blooms were sent where the regulations require three. Added to its ideal form is a charming light apricot shading on yellow ground. Margaret, a bright bronzy terracotta, and Esmé Waters, golden yellow, of this year's novelties approach very nearly the ideal.

Of the older sorts one would be inclined to recommend the following as being a good selection: Bronze Molly, bronzy apricot; Coronet, a rather larger bronze Mensa; Edith Pagram, pink; Isabel Felton and Lizzie Robertson, good yellows; Gem, pure white; Mrs. Edwards, bronzy yellow; Mrs. H. J. Jones, delicate pink; and Mrs. W. J. Godfrey, peach pink. If one considers them as large flowered, one will, of course, include such as Merstham Jewel and its beautiful golden sport, of which an illustration is given. The picture shows effectively how different in character this is to Mrs. J. B. Minchin, which also is illustrated.

These large-flowered singles should all be disbudded, as few, if any, are suitable for growing as sprays; in fact, to do so would be to spoil their character. A. CECIL BARTLETT.

SPRAY AND SPRAY AGAIN

IN a trade paper recently an irate fruit-grower wrote that much of the benefit that should accrue from the spraying of our commercial orchards is nullified through the selfish indifference of surrounding "aristocrats" who allow their gardens to become breeding grounds of pestilence, caring nothing for the fact that what to them is a matter of trifling importance is to their near neighbours a sole means of livelihood.

This is an ugly truth, and the only amelioration of its harshness is that the indifference is due to the fact that the majority of private garden owners are unaware that by permitting insect and fungoid diseases to exist in their gardens they are doing their neighbours ill-service and injury and spoiling the fruit crops of the men who grow for a living.

Nobody likes compulsion, but the destruction of fruit pests and diseases is a matter of such vital importance that unless every owner of fruit trees and bushes will do his best to keep them clean and healthy the only thing is for the Government to compel him to do so or to destroy the trees and bushes. County who keep gardeners have only to see that proper equipment is provided and used. Those who have neither expert assistance nor equipment can hire both for the short time necessary, or can learn enough to enable them to do their own spraying, but nobody should leave things to chance and neglect. If one's Apples or Pears this season were blotched with brown patches or became misshapen or cracked there is evidence that the trees were infested with brown rot, scab or a similar fungus, and the mycelium of that fungus will be lying dormant on the spurs and branches of the trees, to develop and spread with greater virulence, next season. A very effective remedy is to spray during December with a solution of sulphate of iron. Place a quarter hundredweight of iron sulphate in a strong tub—not a metal vessel—sprinkle evenly over the iron a pint of sulphuric acid. Gradually add water to the total of sixty gallons. This spray must only be used while the trees are in a leafless and dormant state. It is advisable to use only on a still day, and the operator should wear an old overall, as the fluid will cause ironmould on clothing.

One of the most serviceable winter washes is caustic alkali wash, for which there are several good formulæ. A very good one is made as follows: Dissolve in separate wooden buckets 1lb. of caustic soda and 1lb. of caustic potash, using a small quantity of water in each case. When quite dissolved mix the two together and thoroughly stir in 12 oz. of agricultural treacle, the object of which is to make the mixture adhesive. Then add water to make ten gallons. The soda should be 98 per cent., and the potash 80 per cent. purity.

The uses of this wash are to rid the trunk and branches of a tree of green slime and mossy lichen, which not only choke the respiratory pores of the bark, but serve as a refuge for scale and innumerable insect eggs. Such a wash may be used with great benefit on plantations of Currant and Gooseberry bushes, as well as Apples, Pears, Plums or Cherries, but should only be used during the winter period. It is to be feared that even where the larger fruits are sprayed there is too great a tendency to overlook the importance of spraying bush fruits. Even aphides can be mastered by destroying the lichen that harbours the eggs deposited in late autumn by the oviparous females, for thus the first broods of spring are got rid of. The big bud trouble with Black Currants may be kept at arm's length by spraying with a good lime-sulphur spray, and there are well balanced mixtures on the market which are prepared by experienced chemists and are generally far more reliable and effective than home-made mixtures.

Another matter that has been too often overlooked is that many of our most troublesome pests find refuge on the branches of the Thorn, Sloe or Myrobalan hedges that surround the orchard or kitchen garden, and some will even thrive on the weeds around the ditches. The latter should, of course, be cleared off and burned, while hedges should be well trimmed and sprayed, as well as the trees and fruit bushes. Spraying is a job that is as well be left alone as half done, and it is cheaper to use a few gallons of fluid and a few extra hours of labour than to undo or nullify the benefit of the whole by leaving even a small colony in the hedge to start afresh as soon as spring arrives.

The rosarian as well as the fruit-grower should pay some attention to winter spraying. The brown scale (Lecanium persicæ) troubles Roses as well as Peaches, and the Rose scale (Diaspis rosæ) works considerable damage. A reliable preparation that has stood the test of time and should still be found in regular use is Gishurst Compound, and a couple of sprayings during the winter will cleanse the bark of standards, dwarfs or climbers, giving the plants a clean start for next spring.

The black spot disease which for several years baffled both growers and chemists, simply because the fungus had penetrated the outer surface of the leaf before the spots revealed its presence, thereby entrenching itself beyond reach of fungicides, can be caught in the dormant state by covering the stems and branches with a copper carbonate and ammonia spray. A good recipe for this excellent fungicide appears in Spencer Pickering's book on fruit trees and their enemies. He recommends that 1½oz. of copper carbonate should be mixed with sixteen liquid ounces of ammonia and diluted with water to 10 gallons. First tip the ammonia into 1½ gallons of water. Put in copper carbonate and shake until the latter is dissolved, then add the remainder of the water. In addition to its virtue as a deterrent to black spot in Roses this spray is effective against Peach-leaf curl. Rose-leaf scorch is another malady which, although manifesting itself in summer, can most successfully be grappled with during winter by the use of sulphide of potassium, or, better still, with a plain solution of copper sulphate. One ounce of the crystals tied in a piece of canvas should be suspended by means of a piece of string tied to a stick placed across a wooden bucket containing 2 gallons of water. This simple solution will destroy almost any fungoid disease that troubles Roses, Peaches, Cherries and the like, but must only be used when trees are bare and dormant. It may again be noted that Rose-leaf scorch is just as prone to attack the hedge Briars and Blackberries as the cultivated Roses and fruits of the garden. Where such abound in the vicinity of the garden it is prudent to give them the benefit of a spraying

A. J. Macself.

CORRESPONDENCE

A NATIONAL DAFFODIL SOCIETY?

I SEE from your columns that the Rev. J. Jacob takes the practical step of proposing that a meeting of those interested should be held at the Royal Horticultural Hall on the first day of the Forced Bulb Show in March. May I ask him to *call* such a meeting? His chairmanship of Committee of the Midland Society affords him the standing to do so, and I think we should have a good gathering.—F. Herbert Chapman.

CURTIS'S BOTANICAL MAGAZINE.

THE Council of the Royal Horticultural Society has decided to make itself responsible for the publication of this magazine. Gardeners and botanists alike will be glad to know that the publication is to be continued and that the copyright has not left this country, as was at one time likely to happen. Messrs. Lovell, Reeve and Co., in whose possession the copyright has been since they purchased it from the Curtis family in 1845, decided that they could not continue the publication after the end of 1920. It was offered to Kew, but the Government could not see its way to allow the botanical authorities there to retain the magazine as an official publication. The copyright was then bought by a number of well known gardeners when they heard that there was a possibility of its going out of the country. It was first offered as a gift to the Government, so that Kew might continue to edit and control the publication; but the Treasury raised difficulties. It was then offered to the Royal Horticultural Society on condition that that Society would make itself responsible for the publication and obtain possession of the stock of the third and fourth series from 1845 up to the present time. Negotiations are now in progress for the resumption of publication, and early notice will be given as soon as they are complete.—W. R. Dykes.

PLANT NOMENCLATURE.

TO one brought up from childhood on Bentham and Hooker it is undoubtedly rather disconcerting to be suddenly faced by the long array of new names favoured by Mr. Druce, but even in the "good old days" there were many alternatives, and plant names, like all other things, are subject to the law of change. I think, however, that Mr. Eiloart will find that Dielytra was only a variant of Diclytra, which was itself nothing more than a printer's error which gained a most curious and persistent currency. The real name, Dicentra—twice spurred—is a fair description of the typical species of the genus. Lippia is derived from Augustus Lippi, a French botanist and explorer in Abyssinia, and is quite an old name. Nicholson, in his "Dictionary of Gardening," published in the 'eighties, describes the lemon-scented Verbena under both names—Lippia and Aloysia—whereas "Cassell's Dictionary of Practical Gardening" (1913) has dropped Aloysia except as a synonym. Aloysia was given in honour of Maria Louisa, mother of Ferdinand VII, King of Spain. As for Tussilago and Petasites, the genera are so closely allied that it may well be doubtful into which a particular species should be placed, but I think we might reasonably expect a plant bearing either name to be weedy. Winter Heliotrope is, of course, merely a popular name, and as such is quite passably expressive.—S. Cooke Thompson.

[We are asked to state that the letter published in our issue of November 26, signed Ronald Eiloaart, was from Mrs. Ronald Eiloaart.—Ed].

BRITISH BULBS.

I HAVE read with very great interest the letters appearing of late under the above heading, and your correspondent K. Laing sums up the position as it affects many hundreds of flower-lovers at the present time, when cash is somewhat limited. The prices at which the Dutch bulbs are offered must certainly be a big inducement, and until British bulbs can to a certain extent compete, orders will go elsewhere. I purchased most of my bulbs from Holland last year, and the result was astonishing, one particular line being "Bedding Hyacinths." They were the best advertisement the Dutch growers could have. Specially selected British bulbs purchased from a Midland house of repute at three times the price were not in the picture. Furthermore we can get better treatment than from some English firms. Being the happy possessor of a small greenhouse, I endeavour to get something in bloom at Christmas,

so, taking the Rev. Jacob's advice I ordered early, viz., the second week in August. No bulbs came to hand, and after three or four postcards, which brought the usual printed acknowledgments, they duly reached me at the end of October, and to my surprise one of the packets was labelled "24 Ornatus—Giant Paper White, regret crop failed." The latter had been ordered specially for forcing. I send you the label for your perusal.—SOMERSET.

[All this but emphasises the more the need of the British *growers* combining. The label sent was not from a British firm of *growers*, and it is more than probable that the bulbs supplied were, in fact, Dutch.—ED.]

THE FLOWERING OF ERYTHRONIUM AMERICANUM.

I HAVE read the letter of your correspondent, S. Arnott, in the issue of THE GARDEN for December 3rd, on the subject of Erythronium americanum refusing to flower in this country, with much interest. It may be of interest to your readers to know that in its native soil in the Province of Quebec Erythronium canadense, which is, I believe, identical with the species americanum, is always very shy in flowering. I have seen the woods in Canada carpeted with the lovely little brown mottled leaves in the spring and sometimes have searched whole patches as large as a tennis lawn without finding a single bloom. Then, again, at a short distance another patch may have a few flowers, but never in great quantities; while its neighbour, the Trillium, which flowers at the same time, rarely fails to throw a flower to each bulb. The soil is a rich black peaty mixture, and the Erythronium is invariably found in shady woods. I have never seen the plant grow in the sun.—NORA J. D. PRICHARD.

THE OUTDOOR-GROWN FIG TREE.

AS a result of my notes on the growth of the outdoor Fig tree in a recent issue of THE GARDEN has arisen an interesting question as to what to do with the immature fruit left on many branches of the trees in autumn. Like many other growers, I have tried various ways of dealing with them (I remember, even fifty years ago, the same question perplexed many minds), such as leaving them all on, at other times reducing them to a few, and for many years removing them all, as the best solution. Occasionally a few fruits escaped their dread enemy—hard frosts of winter and cold winds of spring—but they were so few and unimportant that gardeners regarded them of little value and treated them as abortions. Unfortunately these fruits are generally to be found growing at the base of the same shoot, as are the dormant fruit buds on which gardeners rely for their crop in the autumn of the following year; hence the importance of their being removed so that the dormant buds may not be impoverished by their presence (often in large numbers), for as long as life or contact of fruit and branch remains, more or less sustenance must be wasted, to the detriment of the buds remaining.—OWEN THOMAS.

A SECOND CROP OF PEARS.

I HAVE been watching the columns of THE GARDEN for some mention of a second crop of Pears this season. Consequently I was very interested in the letter in your issue of December 3rd, from Mr. Serjeantson, whose delightful garden at Acton Burnell I have had the pleasure of seeing. The same thing happened to a Pear tree in my garden. The second blooming occurred some time after the first fruit had formed. The first crop was gathered at the end of September when the second crop of Pears was still quite small. Immediately the second crop began to swell and at the end of October were almost as large as the first Pears. They had a slight attempt at a core, but no seed. I do not know the name of the variety. Other Pear trees had second blossom, but no second fruit.—MARY HARFIELD, *Hythe, Southampton.*

THE UBIQUITOUS ALLWOODII.

IT may be of interest to some of your readers to see how well the free flowering Allwoodii do on a dry wall or rough rockery banks. The accompanying photograph shows them growing in such a position and backed by a Cypress hedge, which, of course, takes most of the available moisture and nutriment. Surely there are few

SUCCESS UNDER DIFFICULTIES.

plants hardier or more amenable to cultivation than these wonderfully free flowering pinks!—H. H.

LATE FLOWERS IN COUNTY DOWN.

THERE is not much to be seen in one's garden at this time, but the yellow Jessamine has come into bloom early this season, and I note a few flowers of Iris sibirica, some Polyanthus, Monthly Roses and Marigolds. Rosemary and Bay are looking at their best, and the Golden Privet and the red shoots of the Dogwood look bright. It seems to have been a good season for the growth of the Mistletoe, as its pearly berries are shining out in the morning sun. Black Cords are lasting everywhere. Leaves have fallen late this year, and those still remaining on the Cabbage Roses and the flowering Currants are of a pleasing yellow shade. A tree of Rose Mme. Alfred Carrière is filled with belated buds. Pampas Grasses have been exceptionally brilliant, and the golden variegated New Zealand Flax looks at its best. We are now seeing the last letters of the alphabet as Douglas Jerrold reads: "A garden is a beautiful book, writ by the finger of God; every flower and every leaf is a letter."—WALTER SMYTHE, *Holywood, Co. Down.*

THE CULTURE OF CLIMBING "NASTURTIUMS."

IN THE GARDEN of October 1 a "Lover of Climbers" wants to know the reason for too much foliage and a small show of bloom. The cause is too rich a soil and—mainly—leaf-mould. If "Lover of Climbers" will proceed as follows he (or she) will be surprised at the results: Let the aspect of the site, if possible, be south-west or south-east; dig a furrow 6ins. deep at the foot of the place to be covered, heaping the dug-out soil at the outer edge. Take half a bucketful of wood ashes, same quantity of brickdust or old mortar and lime sweepings, a quarter of this quantity of charcoal in small pieces; mix well, and with a wooden spade or spoon fill the bottom of the furrow to its length. Over this turn the soil you dug out, press the whole firmly down and water it. Get a packet of mixed seed (climbers); soak as many of the seeds as you will want overnight. Next morning take a bit of round stick, and into each hole so made dab in one seed, keeping the holes a foot apart; cover over with some ordinary soil (no manure). Do not water again till the seeds are well up. When the plants are 6ins. high pinch off the heads. This will cause them to make strong roots and also to throw out strong side branches. Put up strings or fine sticks on which they can take hold, and water the roots once a day (twice if very dry). The plants that have dark leaves will bear red or crimson flowers; those with green leaves will have yellow in various shades with dark markings. (It depends on the bees and butterflies as to how various these markings will be.) Use very little leaf-mould, as this produces leaves in abundance. The poorer the soil the better for an abundant show of flowers. It is a good plan to clip off all extra leaves. When the soil in the trench begins to sink down, renew it, rather heaping it round the roots, first loosening the old soil with a wooden pointer; this will cause the plants to keep on flowering for months. Keep gathering the flowers, and only reserve those for seed which have the best flowers.—CONIFER.

THE NURSERYMAN'S TROUBLES.

MAY we ask you to suggest to your readers who may be planting this autumn that nurserymen should be given a little latitude as to the date of delivery? The season has been of such unusual character, owing to the drought, that there is bound to be some delay in the execution of orders. In the first place, the ground was unfit for lifting, except quite small stuff, until the first week in November. Even then the trees were so green that it would have been better to defer lifting for another week. The ground was not only too dry to lift from, but was equally too dry to plant in. The consequence has been that many people instead of placing their orders early, have waited until they could plant, with the result that we, and probably all other nurserymen, have been inundated with orders during the past three weeks, and everyone asks for immediate delivery. This is, of course, impossible without a magic wand. There is also a good deal of misapprehension among amateurs as to the best time to plant. Writers, who, of course, have to be concise with their remarks, generally say that November is the best time, and it is a safe platitude, but is often stated without any qualification. It is generally true, but not always. We think that a better time is when the weather and soil conditions are favourable, and this may apply to January as well as to November. This season, for instance, the soil conditions appear likely to be favourable throughout the winter. The subsoil is still so dry that it will absorb a

quantity of water before the surface soil is likely to be unfit for planting, except for a few hours after heavy rains. You as an expert know all this, but we fear that some of your readers do not, and we should be very grateful as harassed nurserymen if you would briefly put these facts before them. You have probably done so, but keep on doing it, it will help both of us.—THE BARNHAM NURSERIES, LIMITED.

AN "ANNUAL" CARNATION.

"THINGS are not always what they seem." It is a very old saying. It seems to have been current coin in the days of Imperial Rome. I do not for one moment imagine that it arose from close observation of annual seed lists, but it might have done. Who among those who have purchased "novelties" has not in his own experience, at one time or another, proved its truth? It is not done wilfully, only raisers so often display that very common human failing of thinking their geese are swans. The description of *Carter's Annual Carnations* in the Raynes Park Seed List of 1921 was irresistible, and although it read too good to be literally true, I forthwith sent 1s. 6d. and 2d. for postage to try my luck with a packet. My surmise was wrong. The catalogue description is no exaggeration. It is "one of the most valuable introductions of modern times," if one casual trial counts for anything. From a sowing under glass in February I have had a great many fine blooms both out of doors and also in pots in a cold house. There were very few singles, not that I despise a good single Carnation, but what gave me so much pleasure was the strong clove perfume that seemed to be the common possession of every flower. There were pinks, roses, whites, yellows and rich crimsons —no bad assortment. One wonders what will happen when such a strain as this gets widely known.—JOSEPH JACOB.

THE STELLATA FORMS OF PRIMULA SINENSIS.

IT was stated at the time Stellata Primulas made their *début* that they were destined to occupy a prominent place among plants for general decorative purposes in winter and spring, if, indeed, they did not prove rivals to the old Sinensis form. In my judgment they have lived up to this prophecy, for, however desirable we may consider the latter to be, there was always this to be said of the blossoms of Sinensis, they soon fell if plants had to be moved about. This I have good cause to know through assisting to stage a group of miscellaneous decorative plants, including Primula sinensis, which were rendered almost worthless by the time they reached the exhibition. Not so the stellatas, as they are possessed of more staying power, and besides this, they are much more dainty and, I submit, more serviceable for general decorative work, including table adornment. They are fragile looking blossoms that belie their looks, inasmuch as they continue in splendid condition for many weeks, and then one remembers that by sowing in March and May one may have a prodigality of bloom from October to May with a little scheming. Large individual blossoms are not now so much aimed at as formerly and the large flowered Primula has in not a few places had to give way considerably to its small and daintier relative.—W. LINDERS LEA.

THE GRASS ORCHARD.

I HAVE read with interest your article on grass orchards, but would like to know on what grounds the writer founds his assertion that "Such varieties as Lord Suffield, Lord Grosvenor, Stirling Castle and Lane's Prince Albert are quite unsuitable." In our grass orchard there are (with other varieties) twenty-one trees of Lord Grosvenor and fourteen trees of Lord Suffield. The average yield of these trees for three years is as follows: Lord Grosvenor—1918, 58¾lb. per tree; 1919, 67lb. per tree; 1921, 123lb. per tree. Lord Suffield—1918, 59lb. per tree; 1919, 44¾lb. per tree; 1921, 25lb. per tree. The year 1920 was a poor crop, of which we kept no record, but it was quite exceptional. The three years of which I give particulars were not exceptional, and the Apples were a fair size, some weighing 10 oz., and quite free from disease. The orchard is within two miles of the centre of a large town. I do not know what the usual weight of Apples per tree ought to be, but these crops seemed to us to be satisfactory. —F. H.

[The varieties mentioned are first rate sorts and excellent croppers. For that very reason they are not suitable in most soils for planting in grass orchards. On exceptionally fertile loams, no doubt, they would prove satisfactory. As a rule, varieties of vigorous habit, which will not come into bearing until they have made considerable growth, but will carry on indefinitely once they become established, are the ones to select for the grass orchard.—ED.]

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Kitchen Garden.

Asparagus.—This much appreciated vegetable lends itself readily to forcing conditions. Roots from three to six years old give the best returns, and from three to six weeks should be allowed to produce the grass, according to the method adopted. The forcing may be undertaken in several ways, and whichever one gives, or has given, good results, that is the one to be resolutely followed. Where a heated pit can be given up for the purpose it is easy to obtain good returns in three or four weeks, but where it has to be produced in frames placed on beds of leaves and manure in the open more time is necessary, and care should be taken when producing it in this way that the frames be well protected on cold nights. Several inches of fine leafy soil should be used for the roots to rest upon, and a similar depth of like material should be placed over them, and the roots at all times kept uniformly moist. Failing either of the above arrangements, a small supply may perhaps be arranged for upon or under the stage of a warm greenhouse. In small gardens where no roots are introduced to give early supplies a portion of the permanent crop may be hastened along if necessary by placing wooden frames about 10ins. deep over the bed and covering them over with strawy litter. The top part of the frames should be so arranged as to allow of easy access to cut the Asparagus when ready. Permanent roots must not be subjected to this treatment more than once every third season.

Carrots.—Whether those of winter storing last in good condition until spring or later, it may safely be assumed young roots are always appreciated as soon as they can be provided. For the raising of this early crop a hot-bed, as previously recommended, is a suitable place upon which to sow and grow it. A heated pit would, of course, serve the same purpose. A light, rich sandy soil affords the best rooting medium, and a depth of from 8ins. to 10ins. is suitable.

The Hardy Fruit Garden.

Outdoor Figs.—In districts where protection to the wood of these trees is considered necessary it should be taken in hand shortly. If time and labour allow it the whole of the branches may be liberated from the wall or building and be encased in straw or bracken fern. An easier and yet quite effective method of protection may be given by placing plenty of evergreen branches among the growths, or by fastening mats or stout canvas over them. The planting of fresh trees may be persevered with in open weather. It is absolutely essential that the position be thoroughly drained, the root-run somewhat restricted, and the compost have a goodly amount of old mortar rubble incorporated with it. Young trees growing too luxuriantly may be either lifted and replanted or root pruned, either operation being helpful in checking too strong a growth, and making for fruit-bearing wood. The most reliable variety is Brown Turkey, though White Marseilles can also be recommended.

Red Currants and Gooseberries trained on walls and fences are more easily protected from birds destroying the buds than are trees in the open, so pruning may be taken in hand any time now. Spur the shoots well back to the cluster of fruiting buds at the base of the fresh growth, and if necessary remove the whole or portion of a few spurs should they have become so crowded as to check a full amount of light and air penetrating. Should birds be troublesome a piece of netting affords the easiest form of protection for these trees.

Plants Under Glass.

Plants for Forcing, such as Azalea mollis, Magnolias, Deutzia gracilis and Rhododendrons, should be potted up as soon as they come to hand and placed in cool quarters until required. A greater measure of success is met with in bringing these plants into flower if the process is gradual, *i.e.*, only introducing into brisk heat by degrees. An occasional syringing with warm water to keep the buds plump and moist is beneficial.

Camellias, whether grown in pots or planted out in beds, always do better under perfectly cool conditions and should never be subjected to much fire-heat. When it is remembered that this plant is probably as hardy as the common Laurel it is a matter of surprise to see how it is coddled in some establishments. An effort should be made to cleanse the foliage, if necessary, before flowers commence to open, and maintain the rooting medium in an even state of moisture.

Succulent Plants, like Cacti, should be kept much drier during the winter months, sufficient water only being given to prevent the plants from shrivelling.

Fruit Under Glass.

Pot Strawberries.—Unless an early picking is particularly desired by a fixed date, there is no advantage in placing many of these in forcing quarters until the New Year. Select for early work those with prominent and well ripened crowns and possessing an abundance of roots. A low, well heated pit facing due south makes a suitable place to accommodate the plants, but, failing such, they will do well on shelves in a newly started Vinery or Peach-house. Before removing the plants indoors, ascertain that the drainage is clear, and if worms are at work in any of the pots, water with clear weak lime water. On bright days a fine syringing over is beneficial. When once pot Strawberries are placed in fruiting positions the plants must never be allowed to suffer from want of moisture at the roots, although for this first batch it is advisable not to be too free until activity is noticeable of the roots and leafage.

H. TURNER
(Gardener to the Duke of Northumberland).
Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

The Mushroom House.—During the early part of the year a good supply of Mushrooms are of increased value, owing to the growing scarcity of other delectable dishes; so to keep up a supply continue to prepare for fresh beds by collecting the manure and preparing it by frequent turnings so that excessively rank heat may be allowed to escape. A properly protected building is necessary at this time for preparing the manure. Spawn earlier made beds immediately the temperature has settled to between 75° and 80°. Use fresh, sweet loam for covering the beds, making them firm and smooth with the back of the spade. Sprinkle some clean straw over the surface, and so restrain over-quick evaporation. Maintain the required humidity by spraying the floor and walls when necessary. Woodlice are often troublesome during the winter months, but an occasional flush with boiling water behind the supporting boards and into the crevices in the floor will materially reduce this pest. For trapping

cockroaches there is nothing to equal the "Demon" trap.

Fruit Under Glass.

Vines.—In Vineries where late Grapes are still hanging an occasional look over the bunches will now be necessary, so that damaged or decaying berries may be removed. Maintain a thoroughly dry atmosphere, keeping only enough heat in the pipes to guard against further damping of the fruit. In houses that have been cleared of their crop and the wood is now ripe the work of pruning and cleansing the rods should be persevered with.

Peaches and Nectarines.—In most establishments the work of putting the Peach-house in order will have been completed, with the exception of the very late houses. The wood of these should now be thoroughly ripe, so the work of pruning and cleaning the trees need no longer be delayed. Advantage of wet or stormy weather should be taken to carry out this work. The growths of the Peach tree and Nectarine are particularly sensitive to strong insecticides, so where red spider or other vermin are troublesome added care must be taken when applying such. A weak solution of Gishurst Compound is a safe cleanser, using a sponge for the fine growths and a painter's brush for the main stems and older wood. When tying, the shoots should be arranged as neatly as possible at regular distances apart.

Strawberries.—Where these are forced in considerable quantities the first batch may now be taken in hand and placed indoors. Cut off all withered foliage, and examine the drainage of each pot in case worms have caused a blockage. It is also advisable at this time to lay the pots on their sides and give the foliage a thorough spraying with an insecticide before removing indoors. An ordinary greenhouse temperature will be sufficient for the first few weeks, but as growth commences and flower spikes show, the heat must be considerably increased and regular syringing of the foliage must then have attention

Plants Under Glass.

Azalea indica.—A few of the more prominently budded plants may be advanced to warmer quarters so as to induce them to flower during January. The variety Deutche Perle is an excellent sort for early work.

Early Rhododendrons which have been potted up with a view to forcing should also be started now, so that they may flower in the early part of the year and help to brighten an otherwise dull period.

Hyacinths, Tulips and Daffodils still in the plunge should be examined regularly and moved into suitable quarters immediately they show signs of being well rooted. Daffodils will force more readily if put into heat now. Golden Spur proves the most satisfactory sort for early forcing.

The Flower Garden.

Beds that may have been filled with spring-flowering plants, such as Wallflowers, Myosotis and Arabis, should have the surface soil scarified with a small hand cultivator and so break the hard crust caused by heavy rains. Care must be taken not to damage the tops of Hyacinths or Tulips that may have been planted among the other plants.

Early-flowering Gladioli.—There is an early flowering section of the Gladiolus family, which is perfectly hardy and shows a variety of attractive colours. Blushing Bride is a popular sort and is also adapted for pot culture. The Bride, a pure white variety, is equally fine and is specially recommended for forcing purposes; but when grown in this way the forcing must be gentle, as they are impatient of too much heat. If planting in heavy soils surround the bulbs with a mixture of leaf-mould and sand to encourage root action.

JAMES MCGRAN
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

Vegetables at the Smithfield Club Show

NEARLY all farmers are also gardeners. Some of them garden on quite a large scale, so while the chief interest in the Smithfield Club Show at Islington centres in the finest cattle, sheep and pigs that the world produces, it is not surprising to find a deal to attract the gardener. It is well known that the leading horticultural seedsmen do an extensive business with farm and pasture seeds; in fact, the exhibits of such firms as Suttons of Reading, Carters of Raynes Park, Webbs of Stourbridge and the two Kings of Coggeshall suggest that the agricultural branch is the more important of the two.

It was particularly interesting to note how keen the agriculturist is to ascertain the composition of the roots he intends growing. Form does not appeal nearly so much to him as it does to the gardener. Not that he has no eye for form and beauty, such is far from being the case. But his great concern when asked to look at Sutton's Mammoth Long Red Mangel, for instance, is its food value. Beyond the really gorgeous colour of the lower half these Brobdingnagian roots have no claim to beauty, unless it be to the lover of the rugged; *but* they have great food value, and the end and aim of their cultivation is to be converted into food.

The French Marrow Kale is one of the newer food plants of the moment in the world of agriculture. Unlike its cousins, the garden Kales, its chief value lies in the thickened stem. In general appearance this French Marrow Kale is much like one of the famous Jersey Kales that has attained girth at the expense of height and so if dried, as are the "Channel Islanders," would make a better cudgel than a walking-stick. As is the custom with the Jersey variety, the leaves are stripped as the plant grows and are fed to cattle, but with the Marrow Kale the mature stems are pulped and also used for feeding purposes.

From the garden point of view the best exhibit in the Brassica line was the gatherings of Harrison's XXX Brussels Sprouts. Even in this worst of all years for Sprouts the "buttons" were of excellent quality, large size and as hard as Flat-pole Cabbages. It is a splendid variety, and so is the red Celery that Messrs. J. Harrison and Sons also showed.

Carrots were represented by beautiful roots as evenly shaped as though they had been turned in a lathe. Nearly all were of the model type that Messrs. James Veitch and Sons used to specialise in during past years. In Messrs. Carter's large stand this type was superb, as also were the roots of their valuable Early Horn and the roundish Early Favourite. Near by they had their Dainty Beet, which is well named. It is a quite small, round variety of unusually good colour. One additional merit, in these days of high coal prices, is that the roots would cook in less than half the time required by most other sorts. The New Intermediate Beet shown by Messrs. E. W. King and Co. is another excellent variety that is economical to cook. It is particularly shapely and of long oval outline. Another good Carrot was to be seen in Webb's Prizewinner, and the Stourbridge firm also had exceedingly long and shapely roots of Hollow Crown Parsnip.

The newest root in the show was the New Mangel, which was raised by crossing the Beet with the Mangel. The result is a smaller and more shapely Mangel of very bright colour and greater proportionate weight. There were many samples of garden Pea seeds to be seen, and of these two of the best were Essex Star and the Jap. Both are selections from Gradus, and so are fine-flavoured Peas. Hundredfold, also on Messrs. E. W. King's stand, is a prolific early dwarf of good flavour.

Potatoes, however, were the great vegetable of the show, and it almost made one gasp to overhear seed Potatoes being ordered by the teens of tons. It is a healthy sign when market gardeners and farmers realise the supreme importance of having new seed Potatoes when heavy, clean crops are expected. It seemed as if there were more russet-skinned Potatoes to be seen than usual, and there were certainly more coloured tubers on show than ever before. Of the former, Sutton's new immune early variety Dunvegan was very prominent, along with White City, Carisbrooke Castle, The Factor and the pink Sutton's Flourball. Majestic was shown by many growers, and in each instance the tubers were large and shapely. This variety was raised by the late Mr. A. Findlay, whose son specialised at the show in immune varieties. Katie Glover, Catriona and Di Vernon were particularly handsome tubers. Crusader, a new "immune" raised by the late Dr. John Wilson, which was awarded a certificate of merit at the Ormskirk trials, appears to be a first-rate mid-season kidney Potato.

Fidler of Reading (another name indissolubly linked with that of the Potato) had over fifty varieties, and of these Rhoderic Dhu, a clean pebble-shaped tuber, and Rob Roy, which may be described as being in appearance a brighter and thinner-skinned Red King Edward, were very prominent. Various Potatoes were shown by Messrs. Toogood and Sons, who also had excellent Onions.

Fruit was not so plentiful as on many past occasions, but Messrs. W. Seabrook and Sons had baskets of Apples of most brilliant colour. Charles Ross, Cox's Orange and Blenheim Orange were excellent. Two year old bushes of Black Currant Edina, a variety which has been selected by the Norwegian Government as being the hardiest and best after exhaustive trials, were very sturdy and vigorous. This variety was raised at Dalhousie Castle about twenty years ago, and Mr. T. A. Scarlet, who showed it, claimed that it never is affected by big bud. The preserved fruit supported his claim that it bears exceptionally large berries.

DISEASES OF VIOLETS

Though the violet is subject to several serious diseases, these should give little trouble if good and careful cultivation is given.

THE fragrance of a Violet, most welcome of all winter flowers—how we should miss it were its delightful blooms no longer to be obtained for some small coins in our streets, or, best of all, by walking down the garden, lifting the light of a frame and culling great bunches of double or single blooms at will. Take a generous sniff now and, even if there are no Violets within a mile of you, fancy will call a breath of their subtle inimitable perfume to your nostrils and the last Violets you did smell will live again.

Most of the diseases that are found to affect these plants are fungoid in character and only to be dealt with by means of spraying at the first onset of the attack. As with every other plant disease, whether fungoid or insect, promptness is the keynote of successful combat. Promptness as a first measure, followed by perseverance in the application of the remedy, until the pest has been utterly routed and defeated. Make a note of the fact that overcrowding—especially when planting in the frames—is a conducing cause of attack and brings its own Nemesis, while fungus troubles are often perennial in the rootstock and, therefore, care should be taken to propagate only from plants that are perfectly free from any form of these. The trouble that is most likely to occur

in autumn is caused by the brown puccinea, an ally of the rust with which every grower of Hollyhocks sooner or later makes an unfortunate acquaintance. When it first appears, it will be noticed as small yellow or orange spots that later become brownish, though, of course, spraying should be practised long before this stage is reached, or the spores will spread and lay the foundation of extended trouble. Æcidium violarum is chiefly troublesome in spring and summer and attacks the whole plant. You can recognise this from the fact that it consists of a large number of small yellow pustules, congregated into flat, circular mats about a quarter of an inch across. This does not confine its attack entirely to the Violet, but is also found on the Violas; and where both are grown, additional care must be taken that the pest does not become transferred from one to the other. Probably the most destructive pest of all is Æcidium depauperans that attacks and finally destroys plants of Viola cornuta. It can readily be recognised from the distribution of the growths, which are distributed all over the plants and not in clusters.

Yet another readily recognised disease—fungoid in origin—that attacks the Violet in autumn is Urocystis violæ. This causes large gouty swellings in the stalks and veins of the leaves. These burst and discharge quantities of sooty spores. All of the above can be dealt with by spraying with a good fungicide. There remains, however, a disease that appears in June, which can only be dealt with by lifting and burning all affected plants. This is Phyllostica violæ and appears as small white spots on the foliage during the month of June. Red spider—an insect visitation—is well within the cultivator's control by keeping the foliage and surrounding soil moist during dry weather, but, where neglected, can soon cause a vast amount of injury. Keeping the plants always growing vigorously is the surest safeguard against pest and disease, and, be it noted, sufficient space between the rows both winter and summer, with free ventilation while in frames.

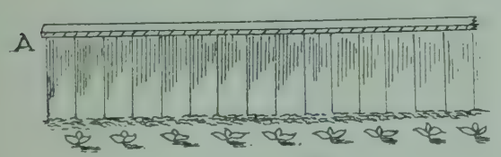
Yet a further point that must be observed is keeping the surface soil loose and open with the hoe. Though not perhaps connected with actual disease, this item is a vital point towards success, for once the surface becomes caked and hard the plants immediately stand still, whereas while the surface is loose they are continuously growing.

H. W. Canning-Wright.

Plant Shelters: Temporary and Permanent

The plant-lover is often faced with the question of adequate protection for his favourites, which may mean all the difference between success and failure.

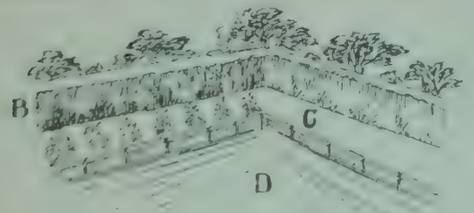
SOME cultivators are more favourably situated than others as regards natural shelter for plants in open borders in the garden. Woods at a reasonable distance on the north and east sides of the garden are most effective in breaking the force of the cold winds which, as a general rule, do so much



Lettuces at the foot of a low fence.

harm in late winter and early spring. High walls, buildings or fences serve a similar purpose; but very few new gardens in suburban and country districts are situated in snug positions, so that in many instances some temporary shelter must be provided.

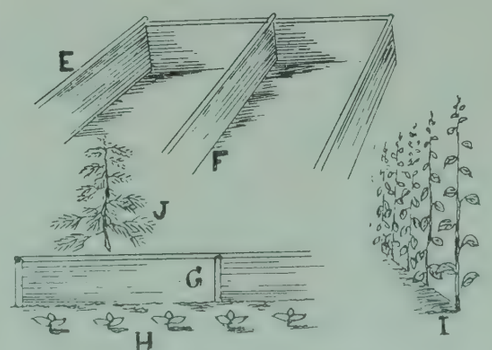
Choice shrubs, trees, plants in herbaceous borders, fruit trees and early vegetables and salads are greatly benefited when they are afforded a wind-break or screen of some kind. Care should, of course, be taken to avoid unsightly looking shelters. Advantage should also be taken of



The garden sun trap.

existing boundary or cross fences, as near them choice plants and early salads and vegetables may well be grown. Fig. A shows where a row of early Lettuces will do well at the foot of a low fence. B illustrates a hedge backed by trees; there are walls, too, and such form angles, maybe, with borders in front facing due south. Such borders are warm because they are sun-traps, so that early Potatoes, Lettuces, Radishes, Peas and spring-flowering plants, including bulbs, should be grown there as shown at C.

The main quarters, represented by D, also receive much benefit. Frames even without glass-lights may be pressed into service, and boards may well be nailed together as shown at E and F to form screens against cold east winds. Mats or sacks, branches or tiffany may be laid over when bad weather comes to further protect the occupants. I find boards on edge, simply fixed



Other forms of shelter.

as shown at G, a very effective shelter for Lettuces (H), the boards being placed from north-west to south-east.

As a protection later on to prevent certain crops suffering through exposure to south-west winds I have seen Jerusalem Artichokes planted in single or double rows as shown at Fig. I. They seem to withstand the strong winds blowing from the sea on the Lancashire coast without being seriously broken, and they offer considerable protection to plants on the landward side. Fig. J shows a Fir branch. There are districts in which these are readily procurable. They are very useful for protecting fruit blossom.

George Garner.

INTERNATIONAL IRIS CONFERENCE

WE are requested by the Secretaries of the International Iris Conference to state that if any readers desire to take part in the Conference they have only to write to them at 84, Rue de Grenelle, Paris. If it is intended to contribute papers on the subjects already opened to study, a list of which follows, or any other, they should advise the Secretaries of the proposed subject as soon as may be.

Those who intend to send plants or flowers should notify the fact some time beforehand.

There is, we are requested to state, no fee for admission to the Conference. A big display of blossom is expected at the General Meeting on May 27 (the time of the Spring Show), and much benefit should be derived from the comparison of the flowers exhibited.

The accompanying notice states:

On the occasion of the centenary of the first varieties of garden Irises raised in France by M. de Bures about 1822 the Société Nationale d'Horticulture de France is organising a Conference at which the Iris will be specially dealt with. This Conference will be held at the Society's headquarters.

Programme of Business.

The Iris Commission will meet on the dates of the ordinary meetings of the Society, the *second* and *fourth Thursdays* of each month, from the beginning of April to the end of July, at 2 p.m. During the principal flowering season and upon notice duly given, when the flowers for inspection justify it, the Commission will meet on the remaining Thursdays at the same hour.

Consignments of plants and cut flowers must reach the Society at the latest before midday on Thursday. The Society will be responsible for the setting up of flowers which correspondents from a distance cannot undertake themselves. It would be advantageous if the Commission were informed at least a week in advance of any exhibits which it may be proposed to put before them at their next meeting. The cut flowers which are sent should be cut in the bud state to the full length of their stems and with some of the foliage proper. They should be carefully packed so that they may be in *judgable* condition at the time of the meeting.

The Iris Commission will carefully examine all exhibits submitted; will set itself to name any doubtful or unnamed species and, more particularly, to correct the very confused nomenclature of the exceedingly numerous garden varieties of Iris.

The Commission is willing to examine the plants of nurserymen and other growers, whether professional or private, so that it may establish the position of the several varieties, as far as possible, and so recast their nomenclature according to the law of priority.

The exhibits may have awards conferred upon them in accordance with the established usages of the Society; certificates of merit and botanical certificates, also, may be awarded to new plants or to those of special merit. The lists of plants and flowers sent in, corrected where necessary, will be published in the minutes of the meetings, as well as any particulars or remarks sent in with the plants submitted.

The Commission will set up, as part of its work, lists of the most recommendable varieties of the different groups of Iris, classified respectively according to colour, date of flowering, height value for garden decoration, worth for cut flower and so forth

The papers sent in in answer to the undermentioned list of questions and any others will be accorded a preliminary examination by the Commission and be brought up for discussion at the plenary session of the Conference which will take place on May 27, 1922, at the same time as the Horticultural Congress. The papers should be sent to the Iris Commission at least a month in advance. They may be given awards and published in the Journal of the Society like all other matter submitted to the Conference.

The Iris Commission makes a special appeal to all Iris lovers, whether amateur or professional, in France or abroad, to participate as far as they possibly can to the success of this Conference, which is destined to make better known and appreciated one of the most beautiful families of hardy ornamental plants.

THE QUESTIONS SUGGESTED FOR CONSIDERATION.

1. History of the raising of garden varieties of Iris belonging to the group Pogoniris (germanica, pumila).

2. History of the introduction, hybridisation and varieties of Oncocyclus, Regelia and Regeliocyclus, and Evansia.

3. History of the introduction, hybridisation and varieties of the bulbous Irises belonging to the groups Xyphium, Juno, etc.

4. History of the introduction, hybridisation and varieties of Irises belonging to the group Apogon (Kæmpferi, sibirica, ochrolenca, etc.).

5. On hybridisation in the genus Iris.

6. Classification of garden varieties of Irises of the germanica section.

7. The cultivation and propagation of the four groups of Iris already mentioned. Any group may be treated separately.

8. The use of Irises for garden ornament, for pots, for the production of cut flower, etc.

9. Insect pests and diseases to which the Iris is subject.

10. The value of the Iris in perfumery and medicine.

11. An elementary study on the genus Iris and its value to the amateur.

12. The Iris in applied art.

DAHLIA CLASSIFICATION

WE print below the classification of the Dahlia, as decided upon at the Conference at Wisley last August.

Class I. Single-flowered.—Single Dahlias have a single regular outer ring of flatly expanded rays which overlap more or less at their edges; the centre forms a golden disc. For show purposes Single Dahlias should not exceed 3ins. in diameter, and the eight (only) ray florets should be smooth, somewhat recurved at the tips, broad and overlapping so as to form a perfectly round flower. (See also Cactus-flowered, Class XV.)

Class II. Mignon Single-flowered.—Flowers similar in all respects to Class I, but the plants do not exceed 18ins. in height.

Class III. Collarette.—Collarette Dahlias have an outer ring of flat rays, as in Singles, and, just within this and surrounding the golden disc, a ring of florets (the "collar") with deeply cut petals, generally of a different colour from the outer and only about half their length.

Class IV. Anemone-flowered.—In Anemone-flowered Dahlias the outer ring of flattened rays surrounds a dense group of tubular flowers, longer than the ordinary disc florets of the Single-flowered class and of a different colour.

Class V. Pæony-flowered.—The Pæony-flowered Dahlias have large flowers, consisting of three or four rows of flatly expanded rays somewhat irregularly arranged and surrounding a golden disc similar to that of the Singles.

Class VI. Small-flowered Pæony.—The flowers are in essentials like those of Class V, but are smaller and less than 4ins. in diameter.

Class VII. Dwarf Pæony-flowered.—Similar to Classes V and VI, but not exceeding 2ft. 6ins. in height.

Class VIII. Decorative.—Flower-heads like Class V, but centre filled with ray florets and without a yellow disc, *i.e.*, fully double.

Class IX. Small-flowered Decorative.—Like Class VIII, but flower-heads smaller and less than 4ins. in diameter.

Class X. Dwarf Decorative.—The counterpart of Class VIII in everything but height, which does not exceed 3ft.

Class XI. Camellia-flowered.—Fully double (without yellow disc); rays regularly arranged with margins incurved so as to form wide-mouthed tubes with their mouths lengthened and tips generally pointed. (This new class has been formed to contain the Decorative Dahlias intermediate in form between those in Classes VIII to X with open rays, and the Show and Pompon Dahlias in Classes XII and XIII with short tubular rays. The name was suggested by Mr. H. J. Jones.)

Class XII. Show.—Fully double, over 3ins. in diameter, almost globular, centre florets like outer, but smaller, with margins incurved, tubular, short and blunt at mouth. This class includes the old Fancy Dahlias, which had each floret tipped with white or striped with a different colour.

Class XIII. Pompon.—Like Class XII, but smaller. For show purposes the flowers of Pompon Dahlias should not exceed 2ins. in diameter.

Class XIV. Star.—Small, with two or four rows of rays, not or scarcely overlapping at their more or less recurved margins, and forming a cup-shaped flower with a golden disc. A long, thin, wiry stem is characteristic of this class.

Class XV. Cactus.—Florets long, generally narrow, spreading, often twisted, with their margins recurved. There are three sub-classes: (*a*) Double, with florets all alike. (*b*) Semi-double, with several rows of spreading florets surrounding a central disc. (*c*) Single, with one more or less regular row only of spreading florets around a central disc.

Class XVI. Dwarf Cactus.—The counterpart of Class XV, but not exceeding 3ft. in height.

Trials at Wisley, 1922.—The Royal Horticultural Society has arranged to carry out at Wisley during 1922 trials of Stocks for summer flowering outdoors, Sweet Peas of pink shades (including blush, carmine, pale cerise, cream pink, rose, salmon and pink bicolors, picotees, striped and flaked varieties), Beet, Broad Beans, Leeks and late Peas. Seedsmen and others are invited to send one packet of each variety which they desire tried, to reach the Director, Royal Horticultural Society's Gardens, Wisley, Ripley, Surrey (goods via Horsley L. and S.W.R.), on or before January 31st, 1922. Entry forms for any of these items may be obtained on application to him.

R.H.S. Great Autumn Show, 1922.—We are informed that the Council of the Royal Horticultural Society has abandoned the idea of holding a meeting in the grounds of Holland House in July, 1922, but that, on the other hand, it has decided to hold a great autumn meeting in the first week of October. Since a meeting at that time of year must be held under cover, it has been arranged to take the Holland Park Skating Rink. The exhibition will open on Tuesday, October 3rd, and remain open for four days until 9 p.m. each day and close at that hour on the evening of Friday, the 6th. It is hoped that a meeting arranged at this time will afford a unique opportunity for getting together representative collections of fruit and vegetables, Orchids, Chrysanthemums and other autumn flowers, berried shrubs and autumn foliage. At this meeting there will be available for competition the Coronation Cup for the best exhibit in the show, the Sutton and the Society's Challenge Cup for vegetables, the Wigan Cup for Roses and, in addition, special cups for the various sections. To amateurs there will be offered the Gordon-Lennox Cup for fruit, two Orchid challenge cups and a special cup for Carnations. Further details will be found, so we are told, in a special schedule which will be issued by the Society early in the New Year. For our own part we hope that this special schedule and any others that may be issued may be sent to the Press. Such a course would seem to be dictated by common prudence as well as courtesy.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

TREES AND SHRUBS.

SHRUB FOR A NORTH WALL (H. W. R., Sussex.)—Escallonia langleyensis is a free-growing flowering shrub that should do well in the position described.

COMMON ELDER AS A HEDGE PLANT (J. B., Chelsea).—Our correspondent desires to make cheaply a quickly grown screen around a two-acre plot, and asks if the common Elder inserted as cuttings would be a suitable shrub, and also wishes to know if, as he is informed, "the Elder poisons the ground for 10ft. around it." If cuttings can be obtained easily, it is quite probable that the Elder is the cheapest shrub that can be used, and it would certainly become "4ft. to 6ft. high" fairly quickly. Cuttings of Elder root readily even though "truncheons," as Loudon termed stout stems, are inserted, always provided the ground is sufficiently moist. But we should not be inclined to consider that Elder would make an effective, permanent screen, as it would have a tendency to become very thin at the bottom of the hedge. As an alternative we suggest that two year old Canadian Poplars are planted slantwise and pegged down hard on the ground along the line of the proposed hedge. The number of seedling trees that would be required would depend on their height. Treated in this way the Poplars would break freely and soon make an effective screen. Hornbeam would be more ornamental, but would probably be rather more expensive. With regard to the alleged poisonous character of the Elder, so far as we know there is no foundation for this, though there are almost countless superstitions throughout the country connected with the "Ellam," "Ellhorn," "Boretree" and "Boutry-tree," as it was variously termed. We rather suspect that what was meant was that nothing will grow immediately around an Elder bush. The reason is that the profuse foliage casts too dense a shade to permit other plants to thrive. This applies to many other trees and shrubs, and at times country folk believe that such do poison the ground and so render it unfit for other plants.

L.S.

MISCELLANEOUS.

SEA SAND FOR ALPINES AND OTHER PLANTS (F. W. S., Milford Haven).—Sea sand may be safely used for all garden purposes. We have used it in considerable quantities and are acquainted with gardens where it has been in use for many years with good results. Even when sea sand is used unmixed with soil for rooting cuttings of such plants as Carnations the small proportion of salt present would not be harmful even though it were not, as is the case, washed out by the necessary waterings long before roots are formed. Although salt in quantity is an effective weed-killer and, of course, harmful to many plants, lighter dressings are often decidedly beneficial. It is common practice to dress Asparagus beds so liberally that it destroys weeds and at the same time stimulates the Asparagus. Salt is also good for Carrots, Cabbages, Beet, Turnips and Seakale, and these would benefit from as much as 1oz. to the square yard. From this it will be seen that sea sand may be confidently used for ordinary garden purposes.

NAMES OF PLANTS.—T. R., Dorking.—Scilla peruviana. The spike sent was an abnormal one.

THE GARDEN

No. 2614.—Vol. LXXXV.] [December 24, 1921.

NOTES OF THE WEEK

THE shortest and, therefore, logically, the darkest day is past, and to-day we have the felicity to wish our readers a Merry Christmas. Of 1921 it will probably be said that nothing so well became it as its manner of dying. It has, as it were, made a death-bed repentance. It were futile here to recapitulate the events of political and economic importance which are making the closing days of the old year less black than their predecessors. It is not, however, only in the great world without that December has been endeavouring to make amends for the delinquencies of the rest of the year. Gardener, fruit farmer and agriculturist have much to thank December for. On the principle that well begun is half done, we have some reason to hope that the coming year will be more favourable to those whose livelihood or whose hobby lies in the land.

The Christmas Season.—Scoffers may say, not without truth, that most of the customs we associate with Christmas are, in fact, pagan in origin. Even the Yule log which from time immemorable has graced our hearth stones is, it is said, pagan in origin. Be that as it may, his must be a very Spartan type of mind who will contemplate Christmas without its proper horticultural trimmings of berried Holly, Mistletoe and Christmas Tree. Holly is, fortunately, wonderfully well berried and plentiful; and if Mistletoe, which is mainly imported, is rather scarce, there will, no doubt, be enough small bunches to satisfy the laudable (?) aspirations of the young.

Perennial Seeds.—There are two articles in this issue which will, it is believed, be of interest to quite an exceptional number of readers—to wit, the one on the raising of perennial seeds, and its fellow on the Rev Jacob's garden frame, or pit, as many people would, perhaps more accurately, call it. The articles are in some small degree complementary, inasmuch as such a frame would be ideal for perennial seed raising. If the gardener can answer the query, "Why do I garden?" by the enthusiast's "Because of the sheer fascination of the thing," he will find, presuming he has not already tried it, that the raising of choice and rare hardy plants from seed is one of the most fascinating [illegible] personal inclination would say "the most fascinating"—sides of an always

British Bulbs.—The announcement by the Chamber of Horticulture, to which attention is called in our Correspondence columns, that their Committee Room is at the disposal of the proposed Bulb Growers' Association is a very practical step towards the bringing of such a Federation or Association into existence. The Chamber of Horticulture is to be congratulated on its attitude. If the growers themselves will put their shoulders to the wheel, it should not take long to get such an Association into working order. Whether, as Mr. Watts thinks, such an Association would render superfluous a National Daffodil Society is a matter for discussion. One thing, however, is certain: unless Daffodil enthusiasts can compose their differences by allowing the majority to rule—whichever side prove, in the long run, to have a majority—the matter will have to "drift" as it had done for some years. It will need "a long pull, a strong pull and a pull all together" if an effective National Society is to be brought into being.

The Mistletoe.—Though Mistletoe is not so plentiful this Christmas as it sometimes is, there will no doubt be few households where the stilted branchlets and silvery berries will be missing. If paterfamilias wishes to establish colonies from the seeds, the method of starting them has often been described. At the risk of being trite, however, let us set them out once again. After the bunches have contributed their quota of amusement indoors, the berries may be rubbed on the under sides of tree branches of moderate thickness, preferably those in which the cambium is not protected by a thick corky bark. The flesh of the berries is extremely viscid and affords as it dries a protection to the seed. No doubt the plant is largely perpetuated in nature by birds "wiping their beaks" on tree branches, and so accidentally "sowing" the seed. Mistletoe naturally impairs the vigour of the host tree, and one would hardly care to start it on a choice variety of Apple. This, none the less, is its favourite host plant. It is fairly easily acclimatised on the Mountain Ash and many varieties of Poplar. The writer has seen it in fine clumps and thick array on both Wych and English Elm, and it is said to have been found on the Cedar of Lebanon and on the Larch; but it is very rarely indeed that it is met with on the Oak. Even where it has succeeded in getting a foothold it is not altogether at home on Quercus, and the Mistletoe "bush" is usually small and stunted.

THE MISTLETOE BOUGH

A New Spade.—Most of us, no doubt, had come to think that such tools as the spade and the fork had attained finality as regards material and workmanship. A spade sent for trial by Messrs. Spears and Jackson proves that this is not so. Manufactured of saw steel, this new tool, though it has marvellous powers of recovery when bent, so that its use should entirely eliminate the straightened-out spade with which we are all too familiar, yet it gives no feeling of whip when in use. It is, in addition, the best balanced and lightest spade the Editor has ever tried. Balance in a spade is—if makers would but believe it!—almost as important as [illegible]

THE RAISING OF UNCOMMON PLANTS FROM SEED

There is a fascination about the raising of rare alpine or other plants from seed unexcelled, perhaps unequalled, by any other branch of gardening.

THOSE to whom the raising of seeds means nothing more than the germinating of, it may be, Stocks, Asters and Celery can scarcely realise what they have missed. The raising of even such things as tuberous Begonias or Gloxinias needs the gentle touch and careful patience which are the gardener's heritage and has assuredly a fascination of its own.

It is, however, only a question of a very short time before the tiny seed leaves are visible and it is not very many weeks before the match stick will be requisitioned to prick off the tiny braird seedlings. With some alpines, however, one must possess one's soul in patience for a twelvemonth before the seedlings, possibly as minute as those of the Begonia and infinitely slower growing, will appear. These kinds are not, however, numerous, and if their wants are properly understood and supplied, most of these out-of-the-way seeds may be raised in a few months, while many germinate within a few weeks. It is proposed now to give some directions for this class of seed raising, directions which are the outcome of practical experience and experiment.

Some seeds—this applies equally to those from plants of annual or perennial duration—retain their vitality for many years until a suitable opportunity is given them to germinate; others, unless favourable conditions present themselves, quickly perish. Many seeds germinate almost at once if gathered and sown before they are quite ripe, which, if left to finish on the plant, take a considerable time to germinate.

When saving perennial seeds of one's own, then, it is unwise to leave them too long on the plant, and it is advisable to sow them as soon as they can be got reasonably clean.

The hardy Primulas—notably those belonging to the Candelabra section (japonica, Bulleyana, Beesiana, Cockburniana, pulverulenta, etc.)—germinate very easily and quickly if sown immediately they are ripe, otherwise they need special precautions of which more anon.

Many people, including those who are reading these lines in quest of information, will be wanting to purchase seeds of species and varieties, and though it is always possible to get seeds of perennials from the firms of nurserymen who specialise in them immediately they have been ripened and cleaned, it does not always occur to one to order them at the proper season.

To many keen gardeners the Christmas holiday presents an opportunity to consider the seed order for the ensuing year. It is then that this question of perennials from seed comes up for consideration, and then it is that, too often, the uncertainty as to how to proceed prevents the experiment from being made.

Many good seeds are spoilt each season by the application of heat. Except in the case of a few plants, which are either not hardy or can scarcely be called so, perennial seeds should be raised without artificial heat. Freesias, which are very interesting to raise from seed, are best sown in pure silver sand, and a bottom heat of 60° is desirable to assist germination. Gladioli, too, germinate better with a little bottom heat. Seeds of the Gerbera, before cleaning, are equipped with parachutes like those of our wild Dandelion. It will be easily understood, therefore, that they should be only half buried in a layer of sand on the top of a not over rich but very porous compost—fat end downwards. If a soil temperature of 60° or 65° is maintained, they will soon germinate. With these, as with Freesias, over-watering must—even before the seeds have germinated—be particularly guarded against.

The bullet-like seeds of the Canna may well be placed on the hotbed, though they will germinate anywhere when the night temperature does not fall below 55°. Thorough soaking for a week in water before sowing will assist germination, especially if the rind is filed through before sowing, in the way it is usually done with the black-skinned Sweet Pea.

Having thus mentioned the treatment of a few classes of seeds which, exceptionally, need warmth,

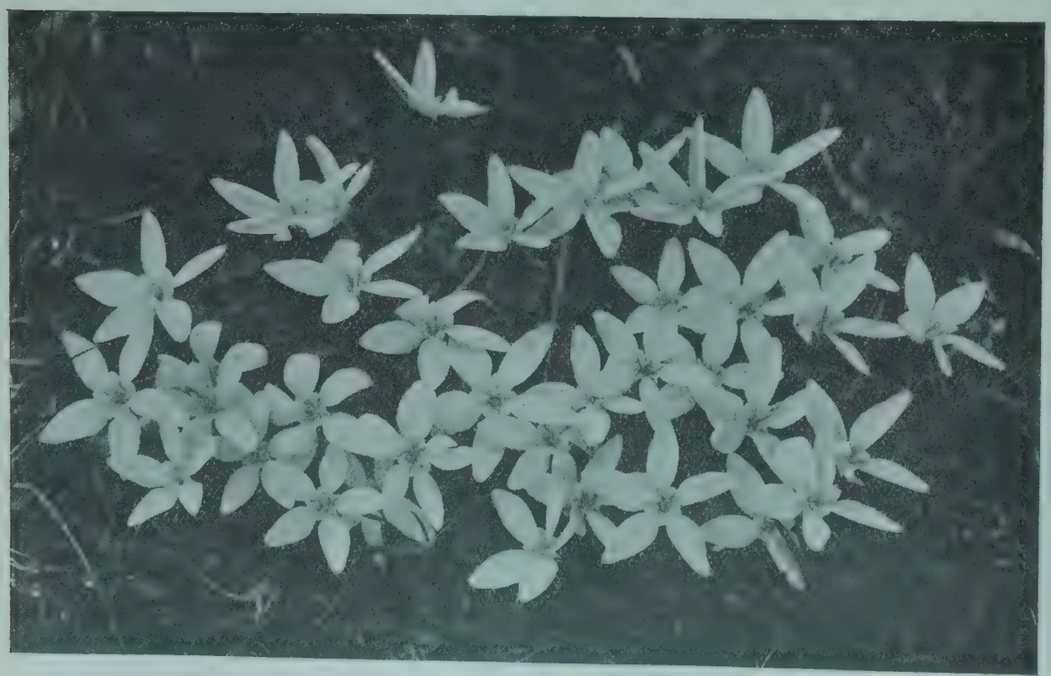
THE BEAUTIFUL ALPINE PIN DIANTHKUS GELIDUS.

In suitable composts the Alpine Pinks are readily and quickly raised from seed.

let us now turn to a more or less detailed consideration of the treatment for some of the perennials really worth the amateur's while to raise from seed.

We will first consider those classes of seeds which need just an ordinary light gritty compost and which are not more troublesome than Antirrhinums, for instance. A very little heat will not harm these, but an unheated structure will answer for them equally well or better. Such are Pentstemons (ordinary hybrids, Newbury Gem, etc.), Gaillardias, Michaelmas Daisies, Erigerons, Heucheras, the more ordinary Campanulas, Salvias, Borage, Delphiniums, Kniphofias—a little heat is beneficial—Gypsophila paniculata (see that the soil is sweet), Anthemis, Fritillaria, Achillea, Phlox, Anchusa, Glaucium, Cistus, Helianthemum, most species of Geum and Potentilla, Geraniums and Erodiums, Helleborus (Christmas and Lenten Roses), Iberis and Alyssum saxatile.

Next we will consider those seeds which will only succeed if sown in a compost consisting largely of peat. Seeds of all the American plants will come into this category. These seeds are almost invariably dust-like, so that the pans—6in. or 8in. round seed pans are best—should be well drained and the compost, which should be gritty, should be made quite solid and left very smooth and level on the surface. The seed mixed with silver sand should be sown as thinly as possible and the pans watered immediately after sowing by dipping in soft water almost to their rims until the water shows signs of percolating through. A sheet of glass placed over the top will conserve moisture and a sheet of brown paper or other opaque substance will keep all dark. The pans should be examined each day and the glasses turned, and in a fortnight or so a look-out must be kept for the



GENTIANA BRACHYPHYLLA IN THE ALPS.

All members of the great Gentian family may be raised from seed, but they need care in selecting suitable composts—and patience.

plantlets, which at first are very tiny. If the pans show signs of becoming dry they must be watered by dipping as already explained. This method of watering will be familiar to all gardeners who are in the habit of raising Begonias or Gloxinias. The foregoing applies to Rhododendrons (hybrids and species), Azaleas, Kalmias, the beautiful Pieris floribunda, Eucryphias, Pernettyas, Heaths of sorts (Erica, Calluna and Dabœcia), and, indeed, to American plants generally.

For many alpine plant seeds, finely broken potsherds form one of the main ingredients of the compost, which may contain, in addition, a little powdered coke dust, a very small quantity of gritty loam and a fair proportion of either peat or mortar rubble, or both combined.

Crushed potsherds and peat form a suitable medium for most of the Gentians, but those sorts which are naturally limestone-loving should have mortar rubble added. It suits also Erythraea, such Anemones as nemorosa and varieties, blanda, apennina and ranunculoides, Erythroniums of sorts, Soldanella, Schizocodon and Shortia.

Potsherds and mortar rubble suit admirably for Androsaces, all forms except carnea and subspecies, which like peat, Æthionema, encrusted and Kabschia Saxifrages—the "Mossies" like a more "soily" compost—Aubrietias, Alyssum spinosum—saxatile any ordinary compost will suit—the choicer species of Arabis—Sturii and Ferdinand-Coburgi, for instance—and all the Lithospermums except prostratum.

The neutral compost of potsherds without lime or peat will suit Lithospermum Heavenly Blue, the choicer Alpine Pinks and the Onosmas. It is ideal for the hardy Opuntias, which are less often seen in English rock gardens than from their quaintness and hardiness one would expect, for Saxifraga mutata, oppositifolia and retusa and generally for plants from the granitic Alps.

It is scarcely necessary to repeat that all fine seeds should be watered by immersing the pan. All seeds which require but ordinary seed compost, *and which germinate quickly*, may be sown in boxes. Seeds of Helleborus, even if sown as soon as ripe, usually take a twelvemonth to germinate—give them a pan and the shadiest corner of a cold frame, therefore. The Gentian family, too, are notoriously slow to germinate, so are many Primulas unless sown immediately the seed heads are mature. It is often twelve months before either "show," though they generally germinate well in the end. Germination of these seeds may often be effected where otherwise it would fail entirely, or be brought about a whole year sooner than would otherwise have been the case, if the seed pans are liberally soaked with "snow-broth." In case of snow, the lights should be removed from the cold frames containing the seed pans. Unless the fall is very deep, it is wise to collect snow from any open space around and pile it over the pots. Of the penetrating power of melting snow through sole-leather everyone is aware. It has apparently the same penetrating effect on the leathery integument of the seed.

For the raising of some of the high alpines a very gritty compost mixed half and half with chopped sphagnum moss is effective. Good results have been obtained with this for Soldanellas of sorts, Shortia, Schizocodon, and especially with the Pinguiculas. This method of seed raising might well be given a wider trial.

FRITILLARIA GIBBOSA (SYN. KARELINI).

A beautiful liliaceous plant hailing from Afghanistan. The Fritillarias take time to germinate and several seasons to bloom but they are certainly well "worth while."

Such things as encrusted Saxifrages take time to grow into sizeable plants, but they are full of interest from the time they first "show through." The variations in habit and appearance, both as regards foliage and flower, even in seedlings raised from a single unprotected home-grown plant of any of the Aizoon section, are truly remarkable. The other "encrusteds" are apt to show evidence of cross pollination.

RIVIERA NOTES

IT is pleasant to note the arrival of the dwarf Japanese Mountain Chrysanthemum. Raised from seed they made quite a little sensation at the late show in Paris, where I hear they were shown in various colours. The only one I have seen on the Riviera is a charming plant, very dwarf and with good-sized blooms of the incurved Japanese section when disbudded It may best be described as being to Chrysanthemums what the Dwarf Polyantha Roses are to Hybrid Perpetuals or climbing Roses, and for outdoor culture is quite an acquisition, for edging purposes especially. The only variety I have cultivated is white in colour with a good, high "yellow petaloid" centre that is most effective with the rather incurving outer petals of the Japanese type. It came to me with the name Gloria, and it is worthy of its name. When propagated in spring and once stopped, nothing could exceed its neatness of habit with good substantial foliage; so that on the Riviera it would quite take the place given to the Cineraria, which in spring is so universal in gardens where there is a little bedding out. Others, no doubt, like myself, will look out for seed or cuttings of this desirable new dwarf form of Chrysanthemum.

This terribly dry season still continues, and it is hard work to keep the garden watered. As yet the supply from the mountains is as abundant as ever, but it does not compensate for the rain from heaven! As ever, there is something that is benefited by abnormal conditions. One thing is the Japanese Kaki, or Persimmon, the fruit of which this autumn is so superior to its usual standard that many new adherents to its luscious flesh are daily to be met with. There is none of the astringence that is found in colder years, and one learns that warmth is especially necessary to it in the last ripening stages.

The other plant is the well known climber Ipomœa versicolor, better known as Mina lobata on this coast. Its brilliancy of colouring and the length and size of its forked spikes of cream and crimson are most beautiful just now. As a cut flower with some autumn foliage it is especially useful, as when cut it lasts in beauty for fully a week without any difficulty, and with care can be made to last a fortnight—not even the hardy Chrysanthemum can do better. As Sweet Peas are now so often grown under glass for market purposes, surely it would be a good thing to try this lovely climber in autumn for English market purposes.

Dahlia imperialis has had its too short season of magnificence during the month of November as usual. If only it flowered in spring when all our visitors are here, how much it would be sought after! The size of the individual flowers was decidedly larger than usual, but the number of its blooms on the "head" was decidedly fewer than in ordinary seasons. It is a plant that likes plenty of water in a dry season.

The first blooms of Acacia podalyriæfolia are just "fluffing out" their yellow stamens several weeks later than in most seasons. Like many shrubs and trees, it suffered considerably from that cruel frost of last December, and it is that and not the drought that has checked its flowering. It is certainly one of the most indispensable shrubs for the winter garden, flowering as it does for several months in succession when growing strongly. It must, however, be grafted on the Acacia floribunda to succeed where the soil is calcareous.

Nerine Bowdeni is flowering prettily just now in the open border. If it establishes itself thoroughly and will flower freely every autumn like the earlier-flowering Sternbergias, it will be a useful addition to flowers for the table, but it lacks the distinction and elegance of other forms of Nerine. In this climate its extra hardiness has no special advantage, and the later-flowering forms are here more desirable where a thorough dry rest in autumn is so easily obtained. Their flowering can thus be prolonged through December and January.

It is painful to record the fact that no rain worth mention has fallen yet on this coast! The situation is getting serious. E. H. Woodall.

HALF-HARDY ANNUALS AND PLANTS COMMONLY TREATED AS SUCH

Half-hardy annuals, if the best results are to be obtained, should be sown at the correct time and in a compost suitable to the particular kind. Given proper after-care, first-rate results may then be expected.

WHERE a little heat is available, half-hardy annuals are invaluable for garden decoration. With them may well be included such plants as, while either hardy or perennial, are suitably treated as half-hardy or annual, as the case may be.

Of true half-hardy annuals, Stocks, Asters and Zinnias may be taken as typical. Lobelia erinus (bedding Lobelia), Petunias, Verbenas and Dahlias typify half-hardy plants of perennial duration which answer well treated as annuals, while Antirrhinums and Golden Feather and, perhaps, Nicotiana are representative of hardy plants conveniently treated as if half-hardy. Nicotiana affinis is in many districts hardy; it is also perennial.

It will be well, now, briefly to touch on the different families and on their uses in garden decoration.

Lobelia is chiefly used as an edging plant for more or less formal beds, but it is valuable for mass planting, especially in sub-tropical gardens. There are many fine named kinds, which must, of course, be propagated from cuttings; but where seed is relied upon, and seedlings have more vitality and withstand drought better than plants from cuttings, a dark-foliaged, compact grower, such as nigrescens, is most desirable. The seeds, which are very minute, should be sown as thinly as possible early in January. However carefully they are sown, they will come up like "mustard and cress." As soon as the rough leaf shows, they should be pricked out, four or five together, as so treated they grow into better clumps than when pricked off singly. As soon as they begin seriously to make growth the young clumps of plants, of which five dozen or so may be planted in a 15in. by 9in. seedling tray—other sizes in proportion—should be cut over with a sharp penknife or pair of scissors to make them bushy. Any plants of a weedy habit of growth should be pulled out before clipping begins. If the clipping operation be done twice the little clumps will have grown into shapely "plants" when, towards the end of April, the necessary hardening off process begins. However dark the foliage is going to be, it will remain green until hardening commences.

Verbenas cannot be depended upon to come true to colour from seed. They are by no means difficult for an intelligent and "clean" gardener to raise from cuttings, but that is not the consideration at the moment. Seedlings are valuable for forming gorgeous masses of mixed colour in such a season as the one we have just gone through, for the Verbena is above all else a heat-loving plant. Seed should be sown in January—the earlier the better—in a compost not deficient in lime content and in moderate heat (55° or over). The seeds are hard and require an abundance of water to germinate them. It will be seen, therefore, that an open compost is necessary to prevent clogging of the soil and sourness.

Petunias for bedding should be sown early in the year in moderate heat. Thin sowing, abundance of light and prompt pricking off are the chief essentials to the production of good bushy plants. A light, gritty and leaf-mouldy soil is suitable. It is remarkable how true many of the bedding strains come from seed. The culture of the large flowered fancy sorts and the double varieties is exactly the same. These are admirable for the house, conservatory or for window boxes.

Phlox Drummondii are quick growing, and February will be amply soon enough to sow the seed. Old mortar rubble in the compost is very desirable. Naturally of a rather leggy habit of growth—they should be pegged down like Verbenas when bedded out—they should be given abundance

THE BUTTERFLY FLOWERS (SCHIZANTHUS) ARE NOT AS OFTEN USED FOR OUTDOOR EFFECT AS THEY WELL MIGHT BE.

of light and pinched to encourage them to produce side shoots. For real success, they should, like Petunias, be grown on singly in 3in. pots. Many people would not, however, consider them worth the trouble.

Where a corner sheltered from the winds can be reserved for them, the Schizanthus are admirable for bedding out in light, fibrous soil. Their culture is similar to that of the Phlox Drummondii.

There are few annuals more beautiful than the Salpiglossis; the velvety texture of their blossoms, their rich colouring and wonderful venation give them an exotic beauty peculiarly their own. These, again, should be treated like Phlox Drummondii. They do not mind sunlight or heat, but appreciate thorough waterings in time of drought.

Stocks and Asters are probably grown less to-day than ever before. Their culture, moreover, is almost too well known to be mentioned. Raised on a moderate hot-bed in a frame, or in gentle heat in a greenhouse, they should be kept as close to the roof glass as possible. Both are very prone to "damp off," so that a sweet, porous soil—steam sterilised, if possible—with an admixture of mortar rubble and coke dust should be used. Excessive heat and over-watering, especially watering late in the day, greatly increase the chance of "damping off," so does delay in pricking off when ready. Those which have received a check by being retained too long in pots or boxes will never make satisfactory plants, so that it is unwise to sow too soon. The early days of March will be soon enough for most purposes.

Zinnias need very much the same treatment as Stocks and Asters, but they enjoy more heat and grow more quickly, and are, if grown straight on, less liable to damp than either. Owing to their quicker growth and impatience of checks, it is well to defer sowing seed until the beginning of April.

Except that they are better sown a month sooner, African Marigolds may have similar treatment to Zinnias. The harder-wooded and closer-growing French Marigolds and their "cousin," Tagetes signata pumila, may be sown about the same time, but are less exacting. The last named is an invaluable plant, owing to its bright colouring and neat, yet graceful habit, combined with a most wonderful and lasting floriferousness. The dwarf French Marigolds, too, in their rich shades and combinations of golden orange and bronze are very attractive.

Treated like African Marigolds, sown and grown in rich soil and pricked off betimes into 3in. pots, there are few annuals more gorgeous than Nemesia strumosa Suttoni. Their greatest drawback is that they will not keep the beds bright the season through. It is necessary to have something late flowering to replace them. Aster Amellus bessarabicus, grown specially in pots and plunged, is very suitable for such a succession where it will tone satisfactorily with neighbouring beds.

The same complaint as to shortness of flowering period can, of course, be levelled at the Schizanthus, but if these be grown cool and stocky they are wonderfully effective and satisfactory. After all, they remain in flower much longer than Gladioli, which are widely cultivated and much admired, though the corms are expensive to buy.

Dahlias are often grown from seed, and the single varieties in particular are full of interest and usually very beautiful raised in this way. In order to get them into flower in reasonable time, it is advisable to sow the seed fairly early—in January, if possible. The same remark applies, of course, to the annual cousin of the Dahlia—the Cosmos. There are now early-flowering strains of this old, but, until recently, seldom grown, annual, which give it quite a long flowering season before frost destroys its beauty. The wiry stems and shapely blossoms make them very welcome to the lady of the house.

This does not, by any means, include all the species and varieties which may well be treated as half-hardy annuals, but it does comprise most of those the culture of which presents any difficulty. It also shows what a wide diversity of habit and colouring is obtainable in this class of plant. When to these we add the hardy annuals and think of the various kinds of Poppy, Clarkia, Godetia, Larkspur, Candytuft, Mignonette and Nemophila—to mention but a few—it will be seen how big a part annuals may be induced to play in the furnishing of the garden.

T. H.

THE OPIUM POPPY

The peculiarities and beauties of a flower not, at present, very popular.

IT is possible that other people, like myself, may occasionally tire of some particular flower that has for a time dominated the garden,. and may, therefore, desire to clear it out and have a respite from what has become hackneyed by sheer repetition. This is a whimsey, however, that cannot conveniently be indulged with perennials. Should you happen to have a surfeit of Pæonies or Delphiniums, it would be a trifle drastic if, by way of giving tone to your jaded taste, you were to cart these unreplaceable plants to the rubbisb-heap. But in the case of annuals and, only in a less degree, of biennials, the all-pervading plant of one season may be swept away the next to make room for something new and different. My own dominant, this coming season, is to be the cup-and-saucer Canterbury Bell ; that is, if the plants at all fulfil their present promise and the promise of the labels on the seed packets. This last summer my dominant was the Opium Poppy. In 1919 a gracious American friend sent me, from her own garden in Michigan, seed of a double pink Opium Poppy of which she thinks highly. "The loveliest of all double Poppies," she calls it ; and, superlatives apart, I agree with the lady in thinking it an exceedingly handsome flower. From the seed so kindly sent I grew a fine patch of this Poppy, and it certainly was, while it lasted, the feature of the garden, paling the light even of the Shirleys in its neighbourhood. My experience with this flower may have had something to do with my choice of the Opium Poppy for my border staple the following season ; that is, this last summer, when the preponderance of this Poppy was the outstanding feature of the garden.

I do not, as a rule, find trade lists too exact in their Poppy nomenclature, but from the catalogues of various distinguished firms I selected every variety of Opium Poppy that seemed to me to have any claim to distinctiveness, and I am bound to say that, when the various strains showed their character, there was not so much overlapping as I expected, nor was there any seed that did not repay the trouble of growing. I do not think I omitted from my list much that was worth including, though I looked with wistful disappointment for Poppies of my youth which I could not find. The seeds were duly sown and carefully tended and, though the season was not all that an exacting Poppy might have desired, there was no reason on the whole to be dissatisfied with the results. The borders looked for a time as if they had been planted with British Grenadiers—so sturdy, so handsome were the full-foliaged, upstanding Poppies, capped in due time with a plentiful inflorescence of busbies—scarlet, white and pink, these last in variously graded shades from blush to rose. I do not know that in any flower, except, perhaps, tuberous Begonias, I have ever seen greater intensity of colour—greater range in many genera, but not greater intensity. The scarlet, I think, charmed my fancy most—it was so gay and soldierly, so absolutely the unmistakable thing.

A friend of mine assures me, however, that my partiality for those scarlet flowers is an indication on my part of a certain moral obliquity, because, he says, scarlet is the colour of sin ; and those Poppies were so very scarlet. He further suggests that, if there is a preference, it ought to be for the immaculate whites, symbolic embodiment of the sinless just, though, at the same time, he is ready to admit that neither colour would be equally satisfying without the other. A second moralist, who also must have his say, suggests that I should concentrate my affections on the pinks. Pink, he points out, is a compromise between scarlet and white, and we are all creatures of compromise. The wickedness of such as concern themselves with flower culture is not generally, he thinks, of the full scarlet type—watered down to pink, more likely. Nor, on the other hand, is the righteousness of gardeners, he contends, generally speaking, of an immaculate white, but tempered rather, in most cases, with a greater or less admixture of scarlet—pink again ; not, of course, so pink as the other, not magenta, but still pink—blush, let us say. So that, of all the shades in the *Répertoire*, clearly pink, being the colour of compromise, is the most human, wherefore I ought to plump for pink. Yes, but for which pink, since there are several ? Naturally, I prefer a pink as near to white and as far removed from scarlet as possible, and as there is a gradation of various pretty shades, one may choose and choose without going far wrong. There is, for instance, that light and somewhat variable shade which, for some occult reason, has been called "chamois." Chamois has a pretty way of allowing its slender and redundant petals to part along, as it were, a line of watershed, like the hair of a Skye terrier, and of showing beneath something like an undergrowth of white wool, suggesting I don't know what of delicate and high-bred in the flower, as in the dog. I had seed of another pink Poppy under the romantic name of Charming Bride, a lovely thing at its best, a flesh pink or something warmer, somewhat like Chamois and, like Chamois, with underlying suggestions of white. Then there was the gift of my American friend, which I call "Michigan," a pink that is pink and nothing but pink, except when occasional plants sport into mauve, which, however, is as pretty as the pink. Then there is the Poppy which I had from beyond Tweed, and which calls itself Cardinal Blush, though a reasonable connection between cardinals and blushing is hard to find. Anyhow, blush it is, and does.

> "Not poppy, nor mandragora,
> Nor all the drowsy syrups of the world
> Shall ever medicine thee to that sweet sleep
> Which thou ow'dst yesterday"—

Shakespeare somewhere says, referring to the flower now in question. That Shakespeare was a bad sleeper is certain, for no man would praise sleep as he does, so insistently and wistfully, who could get enough of the thing when he desired it. Whether he used or did not use the "drowsy syrup" of the Poppy to induce the sleep that would not come, it is clear that the anodyne was as well known in Shakespeare's time as it is in ours. And so the botanists of a later time called this the "Sleep-bringing Poppy" (Papaver somniferum). In countries where it is extensively grown the Opium Poppy is a plant of great economic importance, the most important probably of all drug plants, since it produces opium and all the derivatives of opium. The species is indigenous to China, but the Poppy of commerce—the single white form with a blotch at the base of each petal—is grown in various countries Persia, India, Asia Minor and Egypt—where climate and soil are suitable. Anyone who handles his garden Poppies much, more especially the green capsules of the flower, soon becomes aware, unpleasantly, perhaps, that his hands have a druggy, narcotic odour, suggestive of a chemist's shop or the operating theatre of a medical school, the fact being that when he bruises the juicy tissues of the Poppy head he releases a milk which coagulates into opium, and so his hands smell of the drug.

My concern at present, however, is not with the commercial value of the Poppy but with its merits as a garden flower. For gardening purposes there exist several distinct varieties of the opium Poppy. To begin with, there are singles and doubles. The single Poppy is an interesting and beautiful flower, which may be had in various colours, and with petals, sometimes entire, sometimes quaintly fringed. Personally, I greatly admire these single Poppies and welcome them when they appear as chance seedlings in my garden, as they do more or less every year. At the same time single Poppies are so extremely fugacious that I do not recommend their cultivation except by persons of specially papaveraceous tastes. The desirable garden forms are undoubtedly the doubles, which are of two kinds, Carnation Poppies and Pæony Poppies. In the Carnation Poppy the doubling is very full, and the petals are narrow and beautifully fringed, so that at first glance you might mistake a medium-sized flower for a perpetual-flowering Carnation, while the larger flowers are fringed mops of such ample dimensions as no Carnation ever reaches. Seeds of these Poppies may be had in mixed packets of good quality from any firm of repute ; but if it is desired to mass separate colours it is, of course, necessary to procure assorted packets : Dobbie's four Cardinal colours, for instance—scarlet, white, chamois and blush ; though Dobbie's White Cardinal, so far as I can judge, is identical with White Swan and Snowdrift. The Pæony are very different from the Carnation Poppies, the petals being broader, with an even edge, and not too regularly arranged, so that large flowers really have a close resemblance to the true Pæony, from which they take their name. Pæony Poppies are quite as large and massive as Carnation Poppies and have an equally extensive range of colour. A mixed packet of good seed will probably give flowers of all colours except blue and yellow—white, crimson, scarlet, pinks of all degrees of intensity, and a characteristic set of shades ranging from pale lilac and mauve down to a somewhat funereal purple, with curious high lights and shadows that are almost black. It is not so easy to get the Pæonies as it is to get the Carnation Poppies in separate colours—at least, that is my experience, and yet at the end of the season I could have saved in my own garden seed of at least half a dozen good and distinct shades. One especially fine Pæony Poppy I had from Barr and Sons under the name of Barr's Colossus, a huge thing of fine form. There is one desirable form of the Pæony Poppy which it is surprising that seedsmen do not offer in separate colours, that, namely, with bold guard petals and a central cushion of crisply curled petal fragments, a Poppy quite in the way of a good Chinese herbaceous Pæony. I had some of these handsome flowers of a warm pink, the seed of which came to me, I think, under the name of Barr's Irresistible, though, having mislaid the label, I cannot be sure of this.

In dealing with the Opium Poppy I must not omit to note the great beauty of the foliage and the exceptionally interesting mechanism of the seed-vessel. The leaf is of a smooth, lettuce texture, with a greyish bloom, and of a bold,

somewhat acanthoid outline, which might be reproduced with advantage, one would think, in the carved foliage design of a capital; indeed, I am not sure that the Poppy leaf did not actually serve, like that of the Borecole, as a model for some of the work on the exquisite Melrose capitals. Again, the seed-vessel of the Opium Poppy is a miracle of design which I never tire of admiring—barrel-shaped, divided into, I forget how many, triangular compartments by partition walls that radiate from the central axis of the barrel to the sides, like the sections of an Orange; inside which water-tight compartments the grains, like minute seed-pearls, cling to the partition walls in thousands. The top of the barrel is an obtusely curved and channelled roof sloping down to form projecting eaves over the side, immediately under which eaves there is pierced a row of windows, one window to each compartment. When the seeds have passed from the immature pearly stage to the ripe brown, they detach themselves from the partition walls and are ready for distribution, so that later on, when rough autumn winds invert the capsules or batter them to the ground, the teeming seeds come pouring out of the windows on to the soil in thousands, and so the Poppy cycle again begins its round; that is, of course, provided always that no thwarting agency interferes. If every Poppy seed found its billet, this world would be a jungle of Poppies. Nevertheless, for all this marvellous fecundity, I have myself to look sharp after the saving of my seed, else I should have none. I dare not leave the seed absolutely to ripen on the plants, but must gather the capsules while they are yet green and allow them to ripen indoors. Not many days after I have harvested my Poppy-heads I shall probably find the numerous heads I had left in the garden ripped up from top to bottom and every seed stolen. The robbers are the blue tits.

Fine flower as the Opium Poppy is, there is, however, no denying that it has one serious defect, the evanescent character of its blooms. Well might Burns choose the Poppy to symbolise the fleeting nature of earthly pleasure. The obvious corrective to this transiency of the Poppy (as of pleasure?) is frequent successive sowing, so that when one flower goes another comes. There is, I think, a prevalent belief that the Poppy, however fine as a border plant, is, because of its short-lived beauty, useless for cutting, from which opinion I beg leave to dissent. If you cut the flower at the proper stage, that is, when it has just opened (not before, as with the Shirley), and if you set it in a capacious jar with abundance of water, you may have the Opium Poppy for two days in unimpaired beauty and freshness—all the more surely if, before finally arranging the flower, you dip the end of the stem for a time in hot water. And what more sumptuous ornament could one wish for the shady recesses of a room? For the Poppy seems to require some degree of shadow, being itself so full of light. Only, you must be careful not to let these flowers outstay their time, otherwise you will have such a Niagara of petals as will dismay your home genius of domestic neatness and order, whoever she is—housemaid or house mother. SOMERS.

THE FORCING OF POTATOES IN POTS AND FRAMES

POTATOES are very easily forced in frame or greenhouse and usually give good results, and certainly they are a welcome change from Easter onwards after so many months of the stored tubers.

Potatoes may easily be obtained by Easter, no matter how early in the year the festival occurs. To do this, however, we need to make a start in December. The time at which the grower starts these various vegetables into growth will depend mainly on the time at which sufficient heat is available. If he grows Vines or Peaches, it is probable that he will begin to force these early in January, and this affords a splendid opportunity for making a start with many other subjects. If the Potatoes are to be forced in the greenhouse, large pots will be employed. Those which have been used for Chrysanthemums will serve the purpose admirably, and will be again available long before the Chrysanthemums are ready for them in May or June. These pots are dried over the boiler or the hot-water pipes, and are rubbed out with a brush or cloth. There is no need to wash them unless they are coated with green slime. Whether they are washed or not makes not a scrap of difference to the ultimate yield of the Potatoes. Nor need any elaborate drainage be prepared. Suffice it to put one large crock over the hole at the bottom and a handful of dry leaves over this. There is scarcely any need to make up a special compost for Potatoes. There will be at this time of year many old stools of Chrysanthemums to be disposed of. If the old roots and the crocks are removed from the soil and it be passed through a half-inch mesh sieve for the purpose of breaking it up, it should be in a suitable condition for Potatoes. A few inches of soil are put in the 9-inch or 10-inch pots, and over this are placed the prepared tubers.

In order to get an earlier crop, the tubers are previously sprouted by putting them in a box of leaf-soil and placing them over the hot-water pipes. All but the strongest growth are rubbed off. Three tubers are placed in each pot and are covered with about 2 inches of soil. The rest of the space will become available for top-dressing later on. The pots are well watered and are given a light position fairly close to the glass. When the growths are about 6 inches high more soil is added, and support is given to the tops by putting in four sticks and passing a strand of raffia round them. The starting temperature may be 50°, with a corresponding rise during the day-time and as the year advances.

It may be found more convenient to force Potatoes in a frame over a hotbed or in a pit heated by hot-water pipes. In the former case a bed is made up in the usual way, and is covered with 8 inches or 9 inches of soil. In the heated pit it will be sufficient to put a layer of leaves in the bottom, and to cover this with soil. In both cases the tubers are previously sprouted as for pot culture, and are planted in rows a foot apart with 6 inches between the tubers. Radishes may be sown between the rows, and will be in use before the Potatoes interfere with their growth. Air will be given to the frame on all fine days, and the lights are covered with mats on cold nights. In this way we may get Potatoes easily in April and May. Should the frame be required for Tomatoes or Cucumbers, the Potatoes may be lifted and stored in moist soil until required for use. Successional batches of Potatoes in pots or frames should be kept up until the tubers outdoors are available.

CLASSIFICATION OF CARNATIONS

FOR the past two years a sub-committee of the British Carnation Society have laboured, more or less assiduously, endeavouring to classify greenhouse Carnations. In this work they have been immensely assisted by Mr. C. Englemann, who has grown a great variety at his nursery at Saffron Walden. With great and understandable diffidence this sub-committee brought forward at the recent Conference a tentative attempt at classification. As their chairman said, they found great difficulties; the border lines between the various sections were finely drawn and the placing of varieties was arbitrary, so that annual revision would be needed. It was brought forward, he read from the leaflet, not "as the last word in classification, but rather as a well considered basis for the future." The attempted classification has been in two directions: colour and habit. When it is borne in mind that the habit of many varieties of the Perpetual-flowering Carnation is liable to alter its character in a few years of propagation by cuttings, that the habit may depend on the position of the cutting on the parent plant, and that varieties differ in habit under different methods of cultivation, it will be seen that any attempt to classify the Perpetual-flowering Carnation was foredoomed to failure, and the findings of the sub-committee cannot be "a well considered basis for the future." Various alternative suggestions were made, and the best seems to be to group the Perpetual-flowering Carnation into two classes—"show" and "market"; and even this is open to decided objections. So that the classification by habit cannot be considered a valuable contribution to the literature of the Carnation.

Colour classification is, of course, quite possible, when those concerned will agree on colour values, and when a variety will produce flowers of exactly the same shade of colour everywhere. But, unfortunately for the classifiers, "colour is not inherent in the flower itself" and, to paraphrase, "every eye forms its own colour." So that the difficulties which beset this sub-committee were great. There are twelve colour sections. We suppose the sub-committee felt that thirteen would be an unlucky number, so, to prevent such a disaster, classed light rose and deep pink with all intermediate shades together, commencing, however, with "the lightest blush and ending with deep cerise," a rule which has been followed wherever practicable. But there is nothing to indicate, even approximately, the shade of the varieties named in the middle rows or anywhere else.

Too much seems to be taken for granted in this attempt at classification, which, one imagines, is intended to help the ordinary person—the large growers, no doubt, know all about Carnations. An attempt is made to describe the Perpetual-flowering Malmaisons, and, necessarily, reference is made to the Malmaison type, which is *not* described. There are four classes of Pinks, including Allwoodii and Herbertii varieties, but the differences between the two types is a "sealed book," so far as the leaflet is concerned.

From the various remarks that were made we gathered that, in the early future, there will be added to the colour classification indications of what the Floral Committee consider the best varieties of the various sections, thus following the example of the National Sweet Pea Society. This would be welcomed by many who grow Carnations in relatively small quantities.

THE AIR OF THE GARDEN

ONE of the most interesting features of gardening is the fact that it appeals to every faculty—most obviously to the sight, since form and colour are generally the chief considerations in the selection and arrangement of plants, but none the less effectively to the others. It appeals to the ear in many ways, from the hum of the bees in the orchard to the call of the robin on a winter's day. Even when the air is too calm to awake a rustle, the silence which falls is a positive influence rather than a mere absence of sound—the living silence of sleep, not the empty silence of lifeless surroundings. Its appeal to the taste is demonstrated fortnightly by the powers on whose lips the fate of new varieties of fruit depends.

THE HEAVY-SCENTED LILIUM GIGANTEUM.

Its harsher effects may be experienced by anyone who will attempt to prune a Berberis with unprotected hands. Its most powerful influence, however, is exerted through the medium of the sense which, in the ordinary way, is regarded as of least importance—the sense of smell.

In everyday life the loss of this faculty would not be of serious consequence, but in gardening this is not so. A person who had the misfortune to lose both sight and hearing, but whose sense of smell remained keen, would not be entirely cut off from the pleasures of a garden provided he had previously acquired a store of memories which could be aroused by the ever-varying odours borne on the air during the course of a year.

The range of these is wonderful, and any strict classification of their varieties is at present impossible. Some are light, others are heavy; some are soothing, others refreshing; some, though not sweet, are vaguely pleasant, and others are frankly displeasing. The conditions controlling their production and effects—on insects as well as man—afford, like the question of autumn colours, a fascinating field for study, but, of the two, the subject of scents is the wider, since not only leaves but also flowers, fruit and even roots may be concerned in their production.

The strong influence of scent sometimes causes a conflict of ideas when the merits of a plant are being considered. Lack of scent may not tell heavily against a flower which, like many Roses, has beauty of form to atone for it, but it takes a great deal of outward attraction to outweigh an unpleasant odour. One cannot, however, establish a principle that no offender in this way should be permitted a place. The question of whether the odour is freely radiated or only given off at close quarters or when part of the plant is crushed must be taken into account. One can forgive Lilium szovitzianum, but a blow from the Crown Imperial stirs thoughts of banishment and the writer would give no quarter to Phuopsis (syn. Crucianella) stylosa.

Some perfumes are better at a distance than at close quarters, and of these the Giant Lily provides a good example. In the evening, when twilight deepens in the wood and all the air is still, a large group of these fine flowers makes its existence pleasantly felt a considerable way off but, close to them, the scent is almost overpowering.

A scent should not be condemned solely on the evidence of its name. The fragrance of May-scented hedges in Spring need lose none of its pleasant associations because the chemist declares it to be due to the same substance as that which resides in "good red herring."

With the great number of sweetly scented plants which have long been known, it is natural that scented gardens should have been thought of and written about often enough. In many cases, however, they either represent a compromise between ornament and odour or else they give pride of place to herbs—those interesting aromatic plants around which hang so much history and romance. There is still room for the application to this purpose of the principle which guides the purely ornamental disposal of flowers.

The arrangement of colour schemes which shall afford harmonious combinations over as long a period as possible requires taste, judgment and a knowledge of the plants employed. Still greater scope for originality and individual expression lies in the arrangement of plants to produce pleasantly blended scents through as much of the year as possible and changing with each turn of the weather vane. "Awake, O north wind and come, thou south; blow upon my garden that the spices thereof may flow forth." That, even in this country, something could be done toward the realisation of such an ideal is shown by the number of plants there are to draw upon if scent is the only requirement. Shrubs and herbs, annual and perennial flowers, would all be included so long as their odour was radiated.

The subject is a big one, but its complexity is one of its attractions. Among the points to consider would be not only the nature and amount of ground available, but also the relative strengths of the scents of different plants, the time of day or year at which they were given off and the effect of mingling two or more. It is a blend, not a mere mixture, that is desirable, for, if we accept the theory that scents are conveyed to our perception by vibration, it is easy to understand that, like colour or sound, they are liable to discord. It is not the odour within the sun-baked tents at Chelsea that attracts the crowds.

Among the host of applicants which spring up before the mind's eye at the call for examples, it is pleasing to see many with the record of generations of worthy service behind them. Far be it from modern gardening to scorn the flowers of the past and lavish all its favours on foreign immigrants, however distinguished these may be in certain directions. We accept, therefore, such names as those of the Wallflower, Mezereon, Rose and Sweet Briar, Lily of the Valley, Mock Orange, Mignonette, Lavender and Thyme—to mention only a few. Lest, however, it be thought that none of the newer introductions can hold their own with these, we would include that sweetest of shrubs, Viburnum Carlesii.

One of the best scent-diffusers in spring is the evergreen shrub, Azara microphylla, the inconspicuous flowers of which emit a strong odour of vanilla. In September a strong and pleasant scent is given off by the handsome yellow fruits of Cydonia Sargenti, a dwarf shrub of great merit, also for its flowers in spring.

The names mentioned form but a small proportion of the possible total, but indicate that provision for scent would not entail sacrifice of sight. Evergreen foliage and beautiful flowers would come in by the way and add charm to the fount of *natural* perfume. The emphasis is laid on the word "natural" lest some enterprising manufacturer should be encouraged to try to popularise spraying by adding synthetic perfumes to his proprietary mixtures. If that occurred one would feel disposed to exclaim: "O what a fall was there, my countrymen!" A. E. Sims.

THE ARTILLERY PLANT

THIS interesting plant belongs to the Urticaceæ or Nettle family. The names of the Artillery Plant or Pistol Plant have been given to it owing to the fact that if the plant is sprinkled with water when covered with fully developed flower-buds, and stood in a sunny position the buds explode and a whitish powder or pollen is discharged into the air. Perfectly at home in the cool greenhouse, it is useful as a groundwork or edging for flowering plants. The lighter positions under the stages and odd corners of the greenhouse can be readily furnished by growing Pilea muscosa. It will stand a moderate amount of rough treatment better than most plants. The stock can be readily increased by cuttings at practically any time of the year if plenty of heat is available. If only sufficient heat is used in the greenhouse during winter to keep out frost, the putting in of cuttings is better done between March and August. To obtain nice plants in a short time, four or five

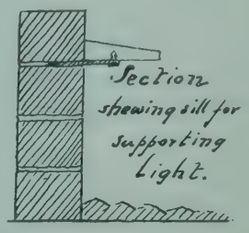
cuttings should be inserted in pots. Use light, sandy soil. If only one or two pots of cuttings are inserted, bell-glasses may be used. For a larger number a hand-light stood on the stage of the greenhouse will be found suitable. If the stage is made of wooden trellis-work, a sheet of tin or galvanised iron must be placed on the stage. On this the hand-light can be placed, covering the bottom with ashes or fibre. This is to exclude air, as cuttings in a close frame root in a few days; whereas, if air is allowed to get in, they take weeks to root. When rooted, air may be gradually admitted, and in a few days the plants can be stood on the open stage in the greenhouse. They will be ready to pot into 5-inch pots in a fortnight or so. Use a light soil consisting of loam, leaf-mould and sand.

A USEFUL GARDEN FRAME

There are few things in a garden more useful than a good frame, and very few to which less thought is given by the average amateur. The following practical notes on frame construction should be of general interest and great utility.

ROME was not built in a day; neither was the garden frame which I am about to describe. It has been slowly evolved—"line upon line, line upon line; here a little and there a little"—in order to meet the particular needs of this particular garden. As it does this in a highly satisfactory manner, it has occurred to me that it might be worth while to explain the whole thing in the columns of THE GARDEN, as possibly it may be suitable for other gardens; or if a frame wholly on identical lines is not, that at any rate a useful idea or two can be got out of the recital. Utility and convenience have been the two guiding stars in its development. The germ was the type of frame in which more years ago than I care to remember we used to grow Marie Louise Violets. This consisted of huge movable planks of wood 3ins. thick, 10ins. or 12ins. deep and from 12ft. to 15ft. in length. The length was not very important so long as the planks were not too short, for, although it was a very simple and easy matter to join them by means of thin boards nailed inside each juncture, the practical working showed that there should not be more than one join in the length of a frame. We had a few shorter pieces to add to either end as they were wanted. When the venue was to be changed a few hard knocks soon separated them. The ends were composed of similar bits of planking to the sides, slightly higher at one end than the other so as to exclude any quantity of air getting in, for it should be said that, of course, the back of the frame was 2ins. or 3ins. higher than the front. This arrangement was brought about either by using planks of different depths or, as we usually did, by sinking one side in the ground. When we used to grow Regeliocyclus Irises the top bit of the ends was prised off, and we had a current of air at all times passing through.

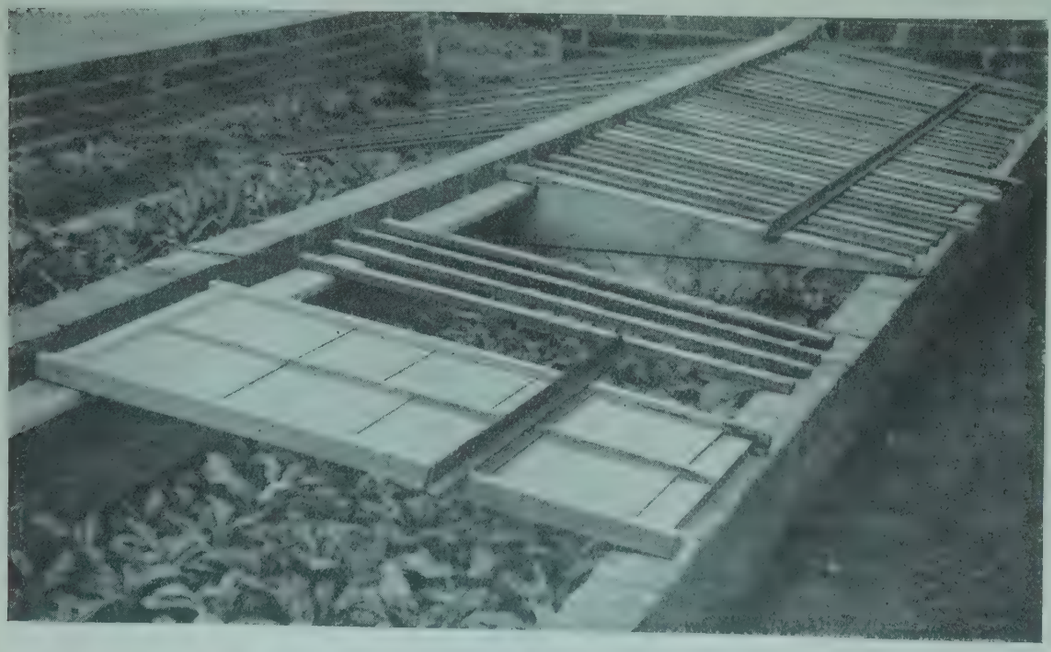
The picture below shows clearly a shaped top joined to a plank just as those were in the Violet frame. Such frames can very easily be moved about from place to place as circumstances require it. The next step was to put these planks against the sides of a wooden-sided glasshouse and use them for the front of the frame, the back, of course, being the wooden side of the glasshouse to which a sloping ledge of wood 3ins. by ¾in. was attached by iron brackets bent to a proper angle to give a slope to the lights and fixed at an appropriate height. Such frames are most useful for a variety of purposes, but not so useful as those which represent a still later development where the glasshouse sides are of brick, and there are sliding ventilators put in at intervals to allow warm air to get into the frames. These are, as may be gathered, only semi-movable. They must either be left or wholly taken away. The last development, which is to be seen in the picture, was to isolate them and to build brick sides and ends for the frames sunk in the earth so that only 3ins. or 4ins. appear above ground-level in the front. Two such frames are placed side by side, divided by a common wall to which on either side are attached sloping ledges for the lights to rest upon. The ends of the frames are built up to the level of the central dividing wall so as to give protection from wind. The depth of the brickwork in the ground must depend on circumstances. We use ours for storing newly planted pots of Hyacinths and Daffodils, for growing early Potatoes, for striking cuttings and for pricking out seedlings. They are empty when the pots are to be put in, and filled more or less with soil when they are to be used for any of the other purposes.



So far not a word has been said about the lights. These are all, like every other part in use, standardised. Each one measures exactly 3ft. by 2ft. This we find is a very convenient size. They are easily carried about, and they are much easier to cover in the time of frost than larger ones. The thickness of the planks (3ins.) and the sunk brick walls are also intended for protection in winter. The glass in the lights is always 21oz. It is well worth the difference in cost over a lighter quality. At the present time we are trying covering the wooden frames with Spondite in place of glass. It makes the lights "as light as a feather." It is, however, too soon to say much about it. It appears to stand well, but I want to watch next spring the behaviour of plants beneath it and the glass lights before I commit myself. I can, however, say this, that we have found it most useful for replacing odd broken panes in our frames or in the greenhouses. This brings me to the question of protection against wind. The south-western wind is our deadly enemy, and to ensure ourselves against its unwelcome attentions we have T iron of various lengths to put over the lights whenever it is rough weather. The illustration shows how we place them on the lights. The last and perhaps the most unusual item in connexion with our frames is the use we make of roofing laths. These are standardised and are cut the same length as the lights. Perhaps 1in. longer would be better, and when I get new ones I hope to try them; but we do very well with those we have. These are used (1) to darken the frames by placing them close together when they are filled with newly planted bulbs; (2) to shade newly pricked out seedlings by placing them 1in. or so apart from one another; and (3) by putting one or two between each light to provide an easy method of ventilation by just taking them out and replacing them as circumstances require. It is necessary to secure the laths with the T irons as well as the lights when bad weather is anticipated.

I think I have said all that is necessary to explain what, for want of a better word, I may call the skeleton of the frame, the brick or wooden sides and ends, the standardisation of the different parts, and something about the parts themselves. I have also mentioned a few of the purposes for which such frames may be used. Take, for example, the growing of early Potatoes. In 1919 we used them for Midlothian Earlies (Scotch seed). Many roots produced two pounds weight of tubers. It now only remains for me to say that I hope some readers may find this narrative useful and pick up a few hints from it; better still, that, by "putting two and two together," they may be able to improve upon it, at any rate, as far as their own needs are concerned. It is a very great thing to have ideas and to be able to clothe them with living flesh, even about such matter-of-fact and utilitarian concerns as garden frames.

JOSEPH JACOB.



AN ORIGINAL BUT USEFUL GARDEN FRAME.

WINTER FLOWERS AT WESTMINSTER

THE R.H.S. Hall at Vincent Square was unexpectedly gay and bright with varied flowers for the last fortnightly meeting of the year. Orchids were the most numerous, and of these there were two gold medal collections, as well as others. The gold medallists were two well known amateurs, Sir Jeremiah Colman and Lieutenant-Colonel Sir George Holford, and in totally different styles they staged exceedingly valuable collections of winter-flowering Orchids. The Gatton Park exhibit was very varied and illustrated many of the best types of Odontoglossums, Odontiodas, Calanthes and Cypripediums, as well as other genera, and all the plants were, of course, as fine as Orchid skill can make them. In the front of the group there was a small plant of Sophro-Cattleya Eleanor, bearing but a single flower, but what a brilliant flower it was, all vivid crimson and gold! The Calanthes were particularly good and bore long, erect spikes of fascinating flowers. Sir George Holford's exhibit was solely of Cypripediums, and comprised almost the very cream of the Lady's Slipper world. On a number of the plants Cypripedium Fairrieanum parentage was evident in the beautifully marked dorsal sepals. Viking, a bloom of exceptional substance, had a pure white dorsal sepal stained below with claret. Ballet Girl possessed unusually large, round dorsal and ventral sepals, and on this variety the white was lightly spotted with carmine.

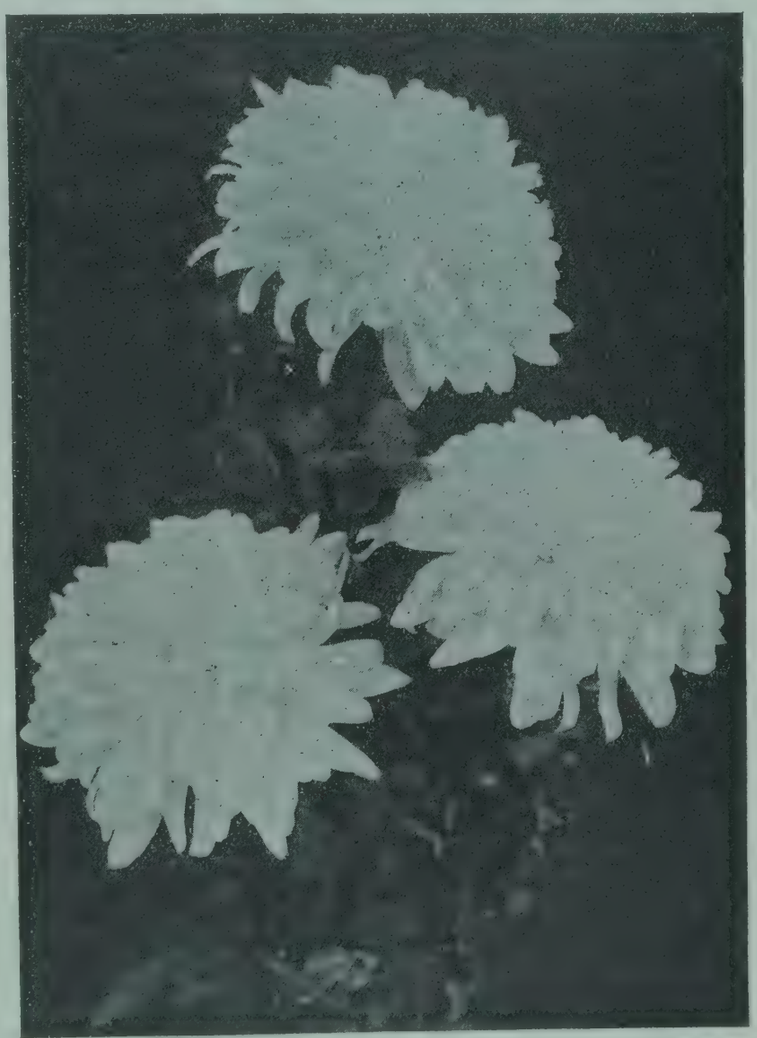
In a small group Messrs. Charlesworth and Co. had some magnificent spikes of Odontoglossum crispum varieties, and, as is characteristic of the countless numbers of varieties of that popular Orchid, no two were just alike, though all bore an unmistakable family likeness.

Chief among the other flowers, so far as quality was concerned, were the winter-flowering Begonias shown by Messrs. Stuart Low and Co. Mrs. Petersen, which may be described as being a very deeply coloured Gloire de Lorraine, and the larger flowered Exquisite and Emita were all very beautiful. They also had a batch of Erica melanthera and the ever-welcome Daphne japonica rubra.

Carnations, though small in numbers, were particularly fresh and bright. Messrs. Allwood Brothers set up a very nice bowl of their new perpetual border varieties among the others. The latter included Mrs. C. F. Raphael, which is the very best all round perpetual Malmaison. Of the true perpetuals the new Marion Willson, Circe and Jazz were very good. In the collection of Mr. C. Englemann the merits of the new Laddie and Topsy, with the rich pink Delice and Peerless, were to be seen.

Chrysanthemums were second to the Orchids in point of numbers. Messrs. Keith Luxford and Co. showed, in Pandora, the last exhibition blooms of the season, and these were of very good type indeed. Near by they placed a large stand of late blooms of Norman Chittenden which were almost like large star-shaped plates in their quaint flatness of form. They were of paper white colour with greenish-yellow centres. The Favourite, as shown by Messrs. W. J. Godfrey and Son, is a useful late white incurved Chrysanthemum.

Among quite a good variety by Mr. S. Aish, we noted especially rich blooms of W. H. Lincoln, which has held its place as an indispensable late golden yellow variety for fully thirty years. Mr. Aish also showed good blooms of Nagoya.



A FINE LATE WHITE CHRYSANTHEMUM—AUTOCRAT REFLEXED.

A very interesting collection of Leeks by Messrs. Sutton and Sons was the only vegetable exhibit, and this included strains of such well known sorts as Musselburgh, Ayton Castle, Royal Favourite, Sutton's Prizetaker and Monstrous Carentan.

A feature of interest, as usual at these winter shows, was Mr. R. A. Malby's exhibit of colour transparencies and photographs. The accuracy of the colour-matching and the fineness of the work always call forth admiration. The Orchid specialists present were particularly attracted by a beautiful Cattleya transparency exhibited for the first time.

Considerable interest was also shown in the display of sundries. The Home and Garden Sundries Company had their exceedingly practical and useful "Everyman" aluminium wall-clips, and also the back-saving "Everyman" seed sower; while Messrs. J. N. Harvey of Evesham showed their new cube-shaped "Fibrex" thumb-pots.

NEW AND RARE PLANTS.

Chrysanthemum Autocrat Reflexed.—As a late-flowering white Chrysanthemum of useful size it is difficult to imagine any variety "filling the bill" better than this. The very compact blooms average about 6ins. across and they are built up with broad, stiffish florets. Award of merit to Messrs. Lowe and Shawyer.

C. Master Adrian.—A pretty spray-flowered late yellow Chrysanthemum. The long, thinnish florets give the blooms a graceful, feathery appearance. Shown by Major-General Sir C. F. Haddon.

Odontioda Joan.—This was a well balanced spike of medium-sized flowers of maroon-crimson colour, tipped and lightly edged with blush rose. Award of merit to R. Gerrish, Esq.

Odontoglossum St. George var. Plutus.—A fine round bloom, beautifully marked with reddish chocolate. Award of merit to Messrs. A. and J. McBean.

Odontoglossum × eximullus Rex.—A particularly handsome variety. The large flowers are almost perfectly round and evenly marked with purplish chocolate. Award of merit to Messrs. Armstrong and Brown.

A magnificent Cypripedium was shown by Baron Schröder. Not being named, it was ineligible for award. It was an enormous bloom of the C. Dreadnought type and had glorious crimson markings.

Apple Orleans Reinette.—As showing how the flavour of an Apple may be influenced by being gathered at an improper time, and also to illustrate the high flavour of the variety, Mr. E. A. Bunyard submitted to the Fruit Committee two dishes—one gathered on September 24 and the other just a month later. The fruits of the earlier gathering were inferior in appearance and quality, while the later-gathered Apples were excellent in every respect. They were juicy and "extremely sweet, with the true Reinette flavour." This medium-sized, flattish fruit much resembles a small Blenheim Orange, and is considered by Mr. Bunyard—who is no mean judge—to be one of the best six dessert Apples. Award of merit to Messrs. Bunyard and Co.

The Propagation of Begonia Gloire de Lorraine

As this beautiful Begonia is so largely grown, a word or two on its propagation may be of interest, while some other growers may like to add their experience with this useful plant. Ordinary cuttings are taken in spring and rooted in the usual way; but leaf-cuttings make the best plants when they can be successfully rooted. These are taken by some growers in November and December, others choose March or April; while several cultivators fail entirely. A temperature of 80° Fahr. is needed, and no direct watering, or they soon decay. The usual plan is to place a little fibre in a box, upon which the leaf-cuttings are laid. The fibre must be sufficiently moist, so that no more water is needed for some days, and a piece of glass can be put over the box to prevent undue evaporation; but it will be necessary to wipe it occasionally and to give the cuttings a little air. All growers should try to seed one of their plants, as this would be the means of further popularising an already largely cultivated plant.

CORRESPONDENCE

BRITISH BULBS.

YOU have, no doubt, seen in this week's *Horticultural Trade Journal* the offer from the Chamber of Horticulture, through their Secretary, to put their committee room at the disposal of bulb-growers for conferences, and to give any assistance in their power to protect the interests of the English growers. Now, this seems to me a good offer and, as I have already suggested, if we could get a "British Bulb Association" we should have a much stronger society than a National Daffodil Society, and one that could equally well or even better cater for the Daffodil as well as other bulbs that can be, and are, British grown.—W. A. WATTS.

A NATIONAL DAFFODIL SOCIETY?

I SEE neither point nor profit in the suggestion to convert the Midland Society into a National one, and, if the suggestion is not quite dead, I should like to drive a nail into its coffin to make sure. It would be reckoning very ungenerously without our Birmingham hosts, who for so many years have entertained us so kindly, and a shabby forgetfulness of Robert Sydenham's pride in his society to wipe out its name for no advantage. Beyond this, I would ask those who are agitating for a National Society to consider well whether it would be worth the fuss. What, after all, would be gained except the presence of new officials, with some sort of label on their coats, in localities and shows which would be practically the same as they are at present? It seems to me that Daffodil growers and exhibitors are remarkably well provided for already. The Royal Horticultural Society gives opportunities every other week throughout the season of the flower, while Birmingham and other local societies give others. With the birth of the proposed society the Narcissus Committee of the R.H.S. would either lapse—and how could its place be filled *every fortnight?*—or would still exist in an ambiguous rivalry, as regards its diplomas, with the authorities of the new body. It may be urged that a National Society would publish a Year Book, the loss of which has been made a chief grievance against the Royal Horticultural Society. But is not this really a question of money? I take it that, if the circulation and the money were forthcoming, the requisite literature could be provided under the existing arrangements. One of the latest contributors to the discussion, Mr. Cranfield, in describing the functions of a National Society, appears to give a picture of almost exactly what we already possess. And I am very doubtful about Mr. Lower's confident promise of the influx of new members. The flower is already extremely well advertised and, as to any considerable increase of shows, there is hardly a possibility of cramming more into the limited number of Daffodil weeks than are crowded into them already. No exhibitor can be in two or three places at once with his flowers. I do not wish to damp the ardour of any enthusiast, least of all Mr. Jacob's, who might be dangerous if unemployed. But in these days we are a trifle overstocked with officials and official machinery. If the Daffodil could speak for itself I imagine it would plead for a quiet life.—G. H. ENGLEHEART.

I HAVE had quite a lot of correspondence relative to the above subject with a number of well known Daffodil people, all of whom are strongly in favour of forming a National Society. Most of my correspondents raised a good many points which would require consideration and discussion. I am therefore glad to see the Rev. Joseph Jacob's practical suggestion that a meeting be held in the R.H.S. Hall on the first day of the forced bulb show. I have no doubt that Mr. Jacob himself knows more Daffodil people than anyone else, including the secretaries of every society that exists or ever has existed in Great Britain, and many elsewhere, so that I should like to support the suggestion that he take steps to call the meeting. I had a letter a few days ago from one of our most prominent hybridists, in which he made some very practical and helpful suggestions, which I think it well to quote. He says: "There seems to be a pretty general agreement that a National Society is desirable. The next thing is to find out what financial support such a scheme would receive. If it is *really* wanted, the money will come in. A National Society would certainly have to run a show in London—and, probably, one in the provinces would be desirable. Someone ought to make an estimate of the cost of running a National Society well, *i.e.*, with at least one good publication, and all other probable outlays, so that we should have some idea of the income required. It should be made attractive to the other Daffodil societies so as to get them to affiliate. To this end they should have a considerable say in the business and in the manner of the formation of the National Society. We want a wider representation, if possible, than a mere combination of the old crews from the R.H.S. Daffodil Committee and the Birmingham Committee. To achieve this the new society will have to make itself as attractive as possible to those who do not go to London or Birmingham, but only to their own local shows. There are a lot of enthusiasts in a small way scattered about the country, I am sure. I know of two, both of whom thirst for literature, so I feel that a National Society should lay itself out to attract such, and make itself worth their support and not merely cater for the usual lot." If any of those interested in the formation of a National Daffodil Society are connected with other national societies, or are in touch with those concerned in the running of them, from whom they could get advice and information on financial matters and other points such as those mentioned by my correspondent, I hope they will collect all they can, so that the discussion at the suggested meeting may be fruitful and profitable. I feel sure that all advocates of the proposed society, also those interested in the British bulb-growing industry, must very greatly appreciate and feel deeply grateful for the exceedingly helpful and encouraging interest shown in these matters by THE GARDEN.—GUY L. WILSON.

I DO not quite agree with the statement by Mr. Bliss that raisers only play a small part in the creating of popularity of shows. I contend that it is by breeders producing robust seedling varieties that novices are induced to go in for the cultivation of the different races of garden plants. Later on they often try their hand at showing. Take Roses as grown in the West Riding of Yorkshire, for instance. The larger number of novices, who afterwards became exhibitors, started growing after the advent of such varieties as Caroline Testout, Frau Karl Druschki and their seedlings and other varieties that produce thick *bark*, as being the most robust in growth. There will be the same shyness with the Daffodil until more robust varieties are produced. If raisers still keep working on the King Alfred strain, which does best in the South, the National Daffodil Society which-is-to-be will still remain, in reality, the Midland. It is a mistake to give some of the sections stupid names, such as Giant Leedsi or Giant Incomparabilis. Just fancy the novice buying bulbs of either, thinking he is going to get flowers ever so much larger than, say, dear old Emperor! I am confident that a lot of our Daffodil breeders just fertilise one or two flowers, then give excessive cultivation to the few seedlings resulting, in the expectation of an award of merit being given to them when put up for show. A good many of these sorts die out a year or two later. I often think it is a great pity we have not more working men and market men Daffodil raisers. I believe they would produce more robust varieties than one who has only the "exhibitor's eye." I should also like to see the old name Burbidgei revived for the rim-eyed flower, retaining the word Barrii for the self-coloured eye.—WORKING MAN.

RANUNCULUS GLACIALIS.

MR. REGINALD MALBY asks if others have observed a shaggy-leaved form with soft cream-coloured flowers similar to his from the Augstbord Pass in the Valais. I, for one, have not; nor do I find any reference to exactly such a variety in any published work in my possession.

SLOPES ABOVE LAUTARET, LOVED BY RANUNCULUS GLACIALIS.

I enclose a photograph which may be of interest, showing the slopes above Lautaret, much loved by the typical plant. I suppose the variety in question would come under var. holosericeus, Gaudin—Fl. Helvet. iii, 528 (1828). Gaudin's short description can be translated: "With leaves rather woolly (affatim lanuginosis) and almost tomentose." He adds: "De Saussure—Voy. dans les Alpes, par. 2277, tab. 8." Further on Gaudin again refers to De Saussure's illustration, and says the variety is found at Mont Cenis and the Val de Bagnes. Jaccard gives various other localities in the Valais (Cat. de la Flore Valaisanne, 1895; a useful work rarely seen in England). Jaccard also mentions the var. crithmifolius, Reichb., and the hybrid aconitoides, D C. (aconitifolius × glacialis). The latter is given by Gaudin; but there is, fortunately, (*sic*) a remarkable absence of varieties of R. glacialis in practically all the floras—ancient and modern. Gaudin's holosericeus is the only variety kept up by Gremli and by Rouy ("Flore de France," i, 76), and most Swiss, French, English and Italian authors mention none. As long ago as 1789 Villars spoke of this plant as "difficile à cultiver" ("Hist. des Plantes de Dauphiné," iii, p. 739). However, Mr. William A. Clark used to succeed with it at the York Nurseries, and in his little book on alpines he told us how. Mr. Malby well describes its natural habitats. I need only add that it likes mud, in the finely divided state of granite brought down by glacier streams to some level plain in the Alps, where a shallow lake may form. In such places it sometimes grows by the acre, but not with the extreme beauty associated with the higher snow-fed screes and marly slopes. The sepals are always more or less rusty with thick woolly hairs, whether the leaves are glabrous and glossy or somewhat hirsute. I may be allowed to point out a slight error in my description of this plant in "Alpine Plants of Europe." The root leaves are not "usually" hairy: the hairy form is more often found at the highest elevations. Some years ago it was thought that the colour of the corolla turned reddish after fertilisation—see, *e.g.*, statements of that careful observer George Flemwell—but this theory has not definitely been proved. It is the only Buttercup which keeps its calyx intact until the carpels are ripe, and sometimes longer. The late Dr. Newell Arber, in his charming work on "Plant Life in Alpine Switzerland," refers to the "very inconstant" colouring of the flowers; "great differences in colour being often remarked among flowers borne on the same plant, and even in the different petals of the same flower. The petals have a small nectary at the base of the inner side, and these organs, again, vary greatly in size and complexity, in different examples of the plant." Not only has Ranunculus glacialis a wide geographical range, from Arctic Europe to the Pyrenees, Alps and Himalayas; but it has been found at 14,000ft. altitude near the summit of the Finsteraarhorn, which is the highest limit known for any flowering plant in Europe. Finally, there is a truly illuminating paragraph about this plant in Mr. Yeld's chapter on Alpine Plants in Mr. Coolidge's "The Alps in Nature and History," which, of all books on the Alps, is surely the most generally useful.—H. Stuart Thompson.

IBERIS GIBRALTARICA.

FINEST of all the perennial Candytufts, this beautiful flower seems intent on belying its reputation for only partial hardiness by displaying in December just enough blooms to attract attention to it. True, it is in a very sheltered position on the south side of a large clump of Conifers, but the secret probably lies in the thorough drainage which its roots enjoy and which does not favour the production of soft, tender growth. The photograph was taken in the summer when

THE LILAC-TINGED IBERIS GIBRALTARICA.

the plant was at its best, but the lilac-tinged flowers last for a very long period.—A. E. S.

BULBOUS PLANTS OF KURDISTAN.

IN a very well written and interesting book, "Two Years in Kurdistan," by Captain W. R. Hay, just published, I find many allusions to the beauty and variety of the spring flowers of this little-explored country. I should be glad if any reader of The Garden who may have received bulbs from any of the numerous officers who were employed in this country during our occupation in 1918–20 can give further information about them. On page 240 Captain Hay says: "After climbing a thickly wooded hill where in some open marshy depressions we found acres of Narcissus that filled the evening air with their scent." On page 242: "The road now plunged into a thick forest of really big Oaks, the trunks of which attained a diameter of over 2ft. Beside the road were small springs and marshy places decked with many kinds of flowers, including Narcissi, Squills, Fritillaries and Orchids." On page 244: "The gorge was magnificent in its spring garments, and in the upper part of it the slopes were covered with masses of large scarlet Tulips with spiky petals. In other places we saw great clumps of Irises of two shades, a pale mauve and a purple, each speckled with yellow and black." On page 255, describing his visit to a high pass into Persian territory, "The country is bare save for a thick carpet of grass of a most vivid green, and is interspersed thickly with tall Grape-Hyacinths, Buttercups, and Squills. Around the shrine is a typical Mohammedan cemetery, and among the gravestones grow thick patches of tall red Tiger Lilies." As I know of no Tiger Lily native of this country, it may be that Captain Hay meant Crown Imperials, which are native of the region. Though some few bulbous plants may have been sent from this country by former travellers, it seems clear that in Kurdistan there is a very promising field for a collector, for while the inhabitants have, or had, a bad reputation for brigandage, yet Captain Hay seems to have been well treated by most of the people with whom he came in contact; so that, though I believe that our Government no longer attempts to govern this country, the reputation which such able and judicious officers have left behind them would make it possible for the right kind of man to travel freely in this district, if not all over Kurdistan.—H. T. Elwes, *Colesbourne.*

PACKING FOR EXPORT.

IN the issue of The Garden for August 6 you have an article headed "A Lament from New Zealand," and, unfortunately, I can endorse every word of it. The matter was discussed by the Council of the Nurserymen's Association at one of their meetings, and a motion was put forward to send a man home who would collect and pack for us. Naturally, as we look upon importing plants as attended with great risks owing to the way in which the packing is done, we do not send any orders larger than we can help. It was said at the meeting referred to above that when one man received the plants ordered he was so disgusted that he wrote away at once, giving a piece of his mind, no doubt, and received word back that they had sent the plants as instructed and did not hold themselves responsible for any loss. I am quite sure if the various firms who go in for new and rare plants were to consider packing to travel out to this country, that instead of getting small orders they would find that the orders were big ones. Some of the firms are inclined to use ordinary moss from the woods when nothing but sphagnum will do. I have seen plants sent out here with less moss on their roots than we use for interprovincial postage; in fact, to demonstrate this the packers have taken the moss and put it on a parcel of plants and then had to get more to finish off with. You say in your leading article that packing for export is a business apart. But why? Surely, to ensure safe transit of plants, even in England, it is necessary to pack securely, and I, for one, would not dream of allowing a man to pack plants for me who could not pack well enough to keep them for a month at least. One firm that knows how to pack is Alex. Dickson and Sons, and their stuff does arrive in good order. I have sent plants to England per post, and have always had congratulatory references to the packing. A resident of Chichester was the last.—A Nurseryman, *Feilding, N.Z.*

[The Editor takes this opportunity of explaining that investigation showed that the original "New Zealander's lament" was hardly a full and fair statement of the case. The order in question was, in practically every instance, for one plant of a variety, and all kinds of plants were included in the order. Efficient packing would in this instance have involved an expenditure out of all proportion to the cost of the order. This is in no way to defend the packing of the plants as they were; it would have been far better to explain matters to the purchaser and await his decision. Our reason for stating that packing for the Antipodes was a business apart lay not in the length of time it takes plants to reach the "other side," but in the fact that they must cross the Line to do so. Carnations and Pinks it is now admitted, cross safely frozen and in cold store. Otherwise it is difficult to travel them safely. Probably many alpines would answer to similar treatment.—Ed.]

THE BUSH APPLE TREE.

I WAS interested in Mr. Thomas's article upon this subject in your paper (page 621). Of course, Mr. Thomas writes from the amateur's point of view, and most of your readers will probably belong to this class, while I should approach the subject more from the commercial grower's side. For amateurs the cup-shaped bush which Mr. Thomas admires is quite good, but it has certain serious disadvantages. To make a really nice-looking tree it is necessary to bend out the branches at their base and then turn them upright and support them with stakes, and when the trees come into bearing these stakes require a good deal of attention, for, if they become decayed and fail to support the branches, these are very liable to break off with the weight of a crop of fruit, and the tree is practically ruined so far as appearance goes. I should much prefer the pyramid trees shown in the illustration from Gravetye. These are ideal, but difficult to copy with such varieties as Allington Pippin, Bramley or Mr. Gladstone, while it would be quite easy to do so with Cox's Melrose White, Lady Sudeley or Herring's Seedling. Such trees carry almost any crop of fruit without danger of collapsing, and if the branches are widely spaced, as shown, the sun and air have free access, and grand fruit can be grown. Commercial growers cannot afford to be quite so particular in the formation of their trees, but the pruning is (or should be) carried out in just the manner shown in the illustration referred to.

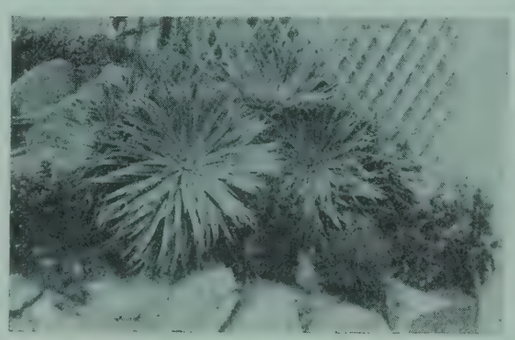
It is upon the subject of pruning that I have ventured to trouble you with these few remarks. I have long ago come to the conclusion that, of all the evils which fruit growers suffer from, close pruning is the most disastrous, yet Mr. Thomas says, "The spur system consists in cutting back all the side shoots growing out of the main branches to within (in the case of the stronger shoots) two buds of their base, and in the case of shoots of moderate strength to within one bud of their base." Now, this, to my mind, is rank heresy, and the result of such treatment would be nothing but strong wood growths, and no fruit could by any possibility result until the tree was either exhausted or very far stricken in years. If Mr. Thomas had said prune to two or one, as the case might be, *fruit buds*, I should be with him, and I am inclined to think this is what he meant, though it is certainly not expressed. The question then arises, how are these fruit buds to be formed? The answer is that with young or vigorous, healthy trees no side shoot which has not a fruit bud already formed should be pruned closer than *six leaves* from the main stem. There must be some outlet for the rising sap in the tree, and if left this length the upper buds on the side shoots will make growth, while the lower buds will remain partly dormant and will swell into fruit buds, and when these are *fully* developed (sometimes one season will suffice, sometimes two) then the shoots should be shortened to the bloom bud—or buds, if two are needed. The formation of bloom buds is hastened if these vigorous side shoots are pinched to seven leaves during the growing season, and then allowed to grow again and winter pruned to six leaves. The pinching tends to throw a little extra sap into the lower buds and plump them up. Winter pruning to two buds produces two strong, infertile shoots. The same operation next winter gives four. But, alas! some growers are not content with this, and they also summer prune to two buds, so that they have four shoots in one year and eight in two years, the trees looking like magpies' nests rather than fruit trees.

With regard to planting, I am fully in accord with Mr. Thomas. Most people plant much too thickly (a bad expression of opinion from a tree seller it may be said). Fifteen feet may be wide enough apart for cup-shaped trees, but for pyramid trees more space is needed. I started planting trees on Paradise 10ft. apart. In ten years every other tree has had to be cut out. Afterwards I planted at 18ft. part, but at that distance it is necessary to plant an upright grower and one of a spreading habit alternately, and on rich land 20ft. is needed. In Norfolk I have seen trees planted at 24ft. apart which in a few years had become a thicket.—A. H. PEARSON, *Lowdham.*

[Mr. Pearson's clear exposition of the correct method of pruning should be of great value to readers who have been perplexed by various authorities. There is little doubt that Mr. Pearson's and Mr. Thomas's views on pruning are substantially the same, but Mr. Thomas's article was not on pruning, and the information more or less casually introduced to explain the form of the tree was certainly misleading to anyone taking it as a guide for pruning.—ED.]

FINE ROSETTES OF ECHIUM.

I ENCLOSE a photograph of an Echium, taken at Thurlestone, South Devon, grown from seed brought over from Teneriffe. It is a very fine plant indeed, the rosettes being nearly 3ft.



THE GIANT ROSETTES.

across. The owner, Mrs. Marshall, has given me permission to use the photograph, which I thought might interest your readers, as so large a plant is very rarely seen. It is growing on the top of a rockery quite close to the sea and does not seem to mind the wind. It has been out two winters.—I. TRESEDER, *The Nurseries, Truro.*

BIG BUD IN BLACK CURRANTS.

MR. H. J. WRIGHT asks in your paper (page 626) if Messrs. J. R. Pearson and Sons have achieved success with soft soap wash against Black Currant mite. I have met several market growers who have completely cleared their grounds of mite by spraying with soft soap and quassia. I think soft soap alone is sufficient to kill the mite, 2oz. to the gallon of water, but the quassia is also effective against aphis. The main difficulty, as Mr. Wright says, is to spray often enough. The spraying should be done at intervals of from seven to ten days during the whole time between the opening of the buds and June. This about covers the migration. For commercial culture it is a difficult problem to find the time and money if the weather is favourable, and it so often happens that the weather prevents spraying just at the right time. One thing is certain, that up to the present we have no Black Currant which is immune to big bud. Seabrook's is one of the French Black type, and these have narrow pointed buds which mites find more difficult to enter than they do the round buds of such types as Boskoop Giant, Victoria, etc.; but when you plant any of the French Black type on good land and manure them the buds get larger and are not proof against the attack of mite. We have on trial a Black Currant which the raiser says is absolutely immune, but time alone will tell if this is correct.—A. H. PEARSON.

COLTSFOOT AND WINTER HELIOTROPE.

I AM amazed that anyone should confuse the above plants. Coltsfoot (Tussilago Farfara) deserves all the gardener's curses in spite of its well known medicinal virtues. It has *single yellow* flowers, appearing early in *spring* before the leaves. These latter have points resembling those of a swallow-tail butterfly's wings and are smooth surfaced. Winter Heliotrope (Tussilago fragrans, or Petasites fragrans, as it is variously called) has in December and January *clusters* of *brownish-lilac* flowers of exquisite fragrance. Its leaves resemble in shape those of a Water Lily, and in substance are crumpled somewhat like those of a Primrose. Coltsfoot is, I believe, indigenous, and, at any rate, has been known to English botanists for hundreds of years. Winter Heliotrope came here from Italy only some two hundred years ago, but has become naturalised. and may be found growing wild in many places. It grows and flowers where naught else would. I have it close against the south wall of Chaffinch Cottage planted in a hard-beaten path where, even during the past hot dry summer it made a line of fresh green foliage. I value it as one of my choicest winter treasures. Only this morning (December 10th) I counted some three dozen flower-stems. When these begin to open they will be cut and brought indoors to fill my rooms with their fragrance for some six or seven weeks, I hope; while sundry small bowls of canary seed will give me pretty pink and green fresh foliage to look at until pot Crocuses open their flowers and help "carry on" with Aconites, Snowdrops and other earliest spring flowers outside till "*Daffodils* begin to peer, and then comes in the sweet o' the year."—ANNE AMATEUR.

[Our correspondent Mrs. Eiloart was, no doubt, using Coltsfoot in a generic, not specific sense in her letter. Delightful as the Winter Heliotrope undoubtedly is, it is, "Anne Amateur" will allow, a plant that needs careful handling to prevent it from becoming an abnoxious weed.—ED.]

INDOOR BULBS.

THE mild weather we have been enjoying of late has brought along the bulbs for forcing at a great pace. Very little forcing has, in fact, been required up to the present. Roman Hyacinths and Paper White Narcissi have bloomed freely this past month in cool frames. The weather for the past week or so has brought Tulips along nicely. Mons. Tresor and Pottebakker (white) were in bloom with me on December 2, and I do not think I have had them so good before, the colour and size of bloom being all one would wish. Iris tingitana has come along nicely, and at the time of writing is in full bloom. How well it looks just now when the days are so dull and short! This Iris is not grown half enough on account of the little trouble it needs in culture. When grouped along with Ferns it makes a beautiful picture, and if bowls are required for house decoration this Iris and the Lily of the Valley are very lovely together. —G. S. LONDON, *Forfar.*

JUNE AND DECEMBER.

ON December 7 I cut and took into the house two large sprays of the dwarf Polyantha Rose Laxtons' Crimson Orleans. Going into the garden shortly afterwards, my wife brought in a piece of berried Holly and, placing it in a vase with a

piece of the above Rose, said, "There you have June and December"—a description of the association at once apt and happy. The incident is mentioned to help support my recommending Crimson Orleans as being a first-class sort of its type. The plants we have here have done well this last season, proving this sport to be a fine bedding variety and, practically, a continuous bloomer throughout summer and autumn. This new Polyantha is a strong grower, of bright crimson colouring which shows up particularly well, arranged in glasses, under artificial light. Another Rose of this firm, by the way, which will, I venture to think, be much used as a bedder, is their sweetly scented Pink Delight, a single Rose also of the Polyantha class. Seen in a mass this variety reminds one somewhat of Rose American Pillar, though I am not sure if it would not be still more correct to compare it with the more delicate shade seen in some wild Roses. It is profuse and long blooming.—C. TURNER.

WHY DO I GARDEN?

THE suggestion of the Rev. Joseph Jacob in your issue of the 3rd inst. induces me, with great diffidence, to supply an answer to the question, "Why do I Garden?" An artistic temperament, an inherited love of the beautiful in nature in every form of flower and fruit, of blossom or foliage, finds a natural outlet for such instincts in gardening, and a love of order and symmetry adds greatly to the charm of the garden. My childish mind was early led to see the loving purpose, the infinite wisdom which order and control the marvellous ways of Nature by intimate association with a beautiful mind and spirit. To those who, like myself, have been blessed by such beautiful association the love of Nature is second only to the love of the parent who taught me ever to see the Creator in every flower that blooms and every leaf that unfolds. Such a privilege is not granted to all. The years roll back and I see myself a child again, walking beneath the exquisite blossom of Pear tree and Apple, Cherry and Plum tree, May and Hawthorn, Lilac and Laburnum, in lovely profusion, and again I seem to hear the beautiful voice, "Merrily, merrily shall we live now, Under the blossom which hangs on the bough." At sunrise or in the heat of midday, in the cool of the evening or in lovely moonlight, blossom and foliage made fairy-land through path and pergola as we passed, the child and the beautiful mind, stored so richly with verse and story, with science and history and the wonders of the travel of a lifetime. The passing of the seasons served only to enrich the memory and to improve the mind. Precept and example, cause and effect, the object and the reason so simply explained and demonstrated—the beauty of the snow—the glory of the storm—the wonder of the stars, all in the appointed season served the beautiful mind to illustrate the wisdom of the Creator. Can one wonder that "One is nearer to God's heart in a garden" when memory holds such sweet remembrance? The beautiful voice has long been stilled, but the Roses and the Lilies and every blossom in my garden holds for me the beautiful spirit of him who taught me to love the flowers—and taught me to obtain health and happiness and content-ment in my garden. To my mind the essence of volumes of sermons is concentrated in the glory of the Shirley Poppies; so that to me there is inspiration for all that makes for the highest in man's nature among the Lilies and the Roses, and there is "exercise for the body," "rest and contentment for the mind," "reward for the ambitious and profit, combined with pleasure," to all who love a garden.—WALTER SHOUBRIDGE, *Carshalton, Surrey.*

THE NASTURTIUM.

NO one will be disposed to quarrel with the main conclusions of your article on plant nomenclature. The difficulty is not altogether preventable, and all that can be done is to avoid complicating matters unnecessarily; but it seems relevant to the subject to point out that the Tropæolum has an ancient and honourable claim to the title Nasturtium. The makers of the London Catalogue of British Plants may have had this in mind when, in the tenth edition (1908), they changed the generic name of the Watercress to Radicule, retaining Nasturtium in the specific name only. When John Parkinson gave to the world the "Paradise in Sole" in 1629 he knew but one Nasturtium, the one which we call Tropæolum, and which he describes as Nasturtium Indicum, Indian Cresses or Lark's-heel. Of this he has a quaint but accurate description and an excellent illustration, and by so doing he gives the name a clear title to be considered a classic, and graces it with the dignity of history, almost with the magic of poetry; for the reader of Parkinson cannot fail to be reminded at times of the exquisite rhythm of the Authorised Version of the Bible, then almost a new book. With regard to Philadelphus, he is not so clear; his Syringas, of which he gives several, include the Lilac, but none of his illustrations are very like the Philadelphus Coronaria, at any rate, in its modern form—it is a little strange, as the shrub seems to have been known half a century before his time. We may certainly feel thankful that we have abandoned the overweighted nomenclature of Parkinson's day—"Crocus vernus albus purus minor" may trip off the tongue like a brooklet in spring, but it is too long for the twentieth century.—S. COOKE THOMPSON.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Vitis.—The hardy Vine family furnishes us with a few of the best ornamental foliage climbing plants for covering pergolas, fences, tree stumps, etc. Most are deciduous and require to be kept in bounds by an annual pruning. This is particularly necessary when the plants are associated with weaker-growing brethren or, again, when growing on buildings. Such pruning may well be undertaken now. Three good varieties are Vitis Coignetiæ, sometimes spoken of as Congesta, V. californica and V. heterophylla, the latter bearing inedible bluish, berry-like fruits in addition to its handsome foliage.

The Kitchen Garden.

Mushrooms.—As sufficient material becomes available additional beds can be made. To have the manure in good heart it requires frequent turnings to sweeten and to allow the more excessive heat and moisture to escape. The best place for the mixture to lie while this is being done is a dry, open shed. To anyone making up a bed for the first time, it should be remembered that a Mushroom bed must be made very firm and should be about 20ins. deep. The spawning should be done just when the heat of the bed is on the decline. Six weeks should be allowed as the period between spawning and gathering time. Where a bed has been in bearing some time and is showing signs of exhaustion a good watering with weak warm manure water will be found to have very beneficial results; 78° is an ideal spawning temperature.

French Beans.—Pots having a diameter of from 7ins. to 8ins. afford the best medium for growing early crops of this indispensable vegetable. The compost should be fairly light and rich, and the pots well drained. Room should be left to allow of a good top-dressing being given later, and as germination may be a little uncertain at this time of year, put about a dozen seeds in each pot and then select the seven or eight strongest ones to remain for cropping. Convenience must to some extent be the guiding factor where the crop can be grown, but unless a night temperature of 55° to 60° can be arranged for, it is better to postpone sowing for another month.

Winter Greens.—The sudden and most severe cold caused a good deal of decay among the foliage of these plants, and the first opportunity should be taken to remove the worst leaves, not not only for the benefit of the plants, but because decaying vegetation has always a most objectionable smell.

The Hardy Fruit Garden.

Orchards.—Where these contain old or perhaps unsatisfactory trees, which for some reason or other cannot be dispensed with, an effort should be made to enable such trees to give of their best by infusing new life into them. It should be recognised that often the retaining of a few old specimen Apple trees, which may often be met with in western orchards and near dwellings, gives to some places a very suitable distinction, which no amount of expensive, newly planted shrubs can ever do. The infusion of new vigour may be done by removing entirely the top layer of turf around the trunk for a distance of about 6ft. or 8ft. Then apply a good dressing of fresh loam, spent Mushroom manure and some wood ash, afterwards forking the whole over to encourage the roots quickly to take hold of the new compost. Early the following summer and in subsequent seasons a good dressing of old farmyard manure can be given, and the grass should not again be allowed to grow within several feet of the trunk.

Plants Under Glass.

Perpetual Carnations.—As good cuttings become available they should be inserted until sufficient stock has been obtained. Those which were put in some time ago in cold frames are now well established in "sixties" and will soon be ready for a move into a size larger pot. If the young plants can be kept in a nice light position and in a temperature from 55° to 60° nice healthy young stock is easily assured. A careful watch must be kept to see that they are kept free from green fly, for if left unchecked, even for a short while, the centres of the plants are soon disfigured. Plants coming on and those already in full flower may occasionally be fed with some approved Carnation fertiliser and also with some clear soot water. Personally, I do not think much organic feeding is good for them, although one or two waterings, during the flowering period, with weak manure made from sheep droppings, is beneficial so long as the plants are in a healthy root state.

Salvia Pitcheri will have finished flowering, so should be cut down and the stools placed in a cold frame. This Salvia is easily increased by root division or by cuttings, and if a batch of the latter are required a few of the old stools should be placed in a warm house, when plenty of growths will soon be available. Root increase may take place when the old plants are potted up in March or April. This Salvia should be grown quite cool. It is a good blue flowering plant to precede Coleus thrysoideus.

Salvia splendens.—The early batch of these will also have passed their best, and sufficient stools should be retained to provide the cuttings required. The young plants raised from autumn-struck cuttings should be kept growing in a warm pit, and in 5in. pots will prove very decorative.

H. TURNER.

(Gardener to the Duke of Northumberland.)

Albury Park Gardens, Guildford.

FOR NORTHERN GARDENS.

The Kitchen Garden.

Forcing Seakale.—Continue to introduce batches of Seakale into heat at suitable intervals for succession. Note how growth proceeds and put in the fresh roots before the previous lot are too far advanced. In the open ground the crowns should be covered with medium-sized barrels or boxes, surrounding them with thick layers of fermenting manure mixed with leaves.

Rhubarb.—Take up a few more roots and force either in a Mushroom-house or in deep boxes underneath the greenhouse stage. Rhubarb may also be forced in the open in a similar manner to that recommended for Seakale.

Celery.—In certain districts difficulty is experienced in keeping Celery in good condition during the winter. This is often traceable to heavy rains on clayey soils which retain an excess of moisture and cause rot to set in more readily. Wheat straw is often used as a thatch, but where lengths of corrugated iron are obtainable and these fixed on temporary supports over the ridges the losses from this cause will be agreeably lessened.

The Hardy Fruit Garden.

Cordon-Trained Apple and Pear Trees on the single stem are yearly becoming more popular, especially so with the owners of small gardens who are desirous of growing a number of varieties with good results in a limited space. Plant about 2oins. apart on walls, also at similar distances on trelliswork, which should be arranged to run north and south in rows about 4ft. apart. The side shoots are not allowed to extend, being spurred back annually. Do not allow the spurs to become overcrowded, an average of 9ins. between the spurs being the proper distance. Attend to root pruning where growth is over-luxuriant and thus help to promote fertility. When planting afresh it is advisable to work in some roughly chopped turfy loam with a sprinkling of lime rubble and wood-ash to sweeten the old soil. When planting keep the roots as near to the surface as possible, so that they may receive the full benefit of the sun heat.

The Orchard.—Should frosty weather prevail advantage may be taken to grub out any old or useless trees. It may also be necessary in many cases to cut away heavy branches that may be spoiling the symmetry of the tree or perhaps congesting the area. Paint the wounds caused by the cutting with Stockholm tar.

Manuring Wall Trees.—As pruning proceeds the manuring and digging of the various borders may be carried out. As a stimulant for wall trees a light dressing of soot and bone-meal should be given. This helps to keep the trees in a healthy and fruitful condition.

Currants and Gooseberries enjoy a dressing of rich farmyard manure. This should be forked or pointed lightly in immediately the border is cleared of prunings.

Plants Under Glass.

Arum Lilies.—These will now be growing freely, so should be assisted freely with liquid manure water, and thus ensure strong flower spathes and healthy foliage.

Bedding Pelargoniums.—Cuttings of these in boxes should be looked over occasionally and all withered leaves and decayed stems removed. Keep the soil on the dry side until growth becomes more active.

Chrysanthemum Cuttings.—Where good strong cuttings are available no time should be lost in having them put in. A moderately heated pit is particularly suitable for Chrysanthemums in their cutting stages, and if a propagating-bed is available so much the better. A good rooting medium is clean sharp sand and finely sifted leaf-mould. Failing a propagating-case, fairly deep boxes are suitable. Dibble the cuttings in firmly and cover over with sheets of dull glass. Where consistent moisture is maintained the cuttings will be found to root readily.

The Pleasure Grounds.

Lawns and Paths.—An effort should be made to have all lawns and paths made tidy and cleared of leaves and fallen branches at this time. Worn or broken grass verges should also receive attention and be returfed during suitable weather.

JAMES MCGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.)
Coodham, Kilmarnock.

OBITUARY

LADY HOOKER.

WE regret to announce the death of Lady Hooker, which took place at Pendock on December 8. Lady Hooker was the wife of the late Sir Joseph Hooker, who for many years held the position as Director of the Royal Botanic Gardens, Kew.

CATALOGUES RECEIVED.

The Burbage Nurseries, Limited, near Hinckley, Leicestershire : Roses.
Vilmorin-Andrieux et Cie., 4, Quai de la Mégisserie, Paris: Tree and Shrub Seeds.
Fisher, Son and Sibray, Limited, Royal Nurseries, Handsworth, Sheffield.—Hardy Trees, Shrubs, etc.

FROSTED FOLIAGE

ONE winter, long ago, when I had great ambitions and little pocket-money, I set my heart on having some frosted foliage. I found ground glass quite beyond my means. Undaunted, I bethought me that a paper packet of Epsom salts cost twopence. This, with a penny bottle of gum and a penny brush, completed my purchases. Then proceeding to the end of the garden, where the high oak fence was covered by small, fine-leaved Ivy, amid which the "Raspberry Robin" had his nest (I generally gathered all the Raspberries, so he knew me quite well), I selected a number of dainty sprays. Next, donning my rarely-worn garden gloves and armed with stout scissors, I cut sprays from the "Hedgehog" Holly, so named because the upper surface of its leaves were as prickly as its edges. Having washed both Ivy and Holly—for even forty-five years ago Surbiton gardens suffered from soot in winter—I lightly gummed the edges of the Ivy and upper parts of the Holly leaves, and, borrowing without leave the kitchen flour dredger, I laid the greenery out on sheets of newspaper and lightly dredged the Epsom salts over all, and left it to dry. (I have often wondered since if I left any salts in the flour dredger.)

Next afternoon, Christmas Eve, I took my sparkling sprays of "frozen foliage" and decorated all the gas brackets with them, and had just finished when, hearing my father's step in the hall, I rushed out and, before he could even take off the top hat without which no member of the London Stock Exchange dare venture into "the House," I seized his arm and impetuously lugged him into the long drawing-room. Pointing to the gas brackets, I demanded that he should admire them. "Silly girl!" said he, "they'll soon melt." Dropping his arm and seizing my 4yard.-wide skirt (skirt-dancing was the last new thing), I executed an impromptu "Pas de Triomphe" around him to improvised words and tune—"My frost has come to stay; it will not melt away"—till breathless and laughing, I fell into a chair; and my bewildered parent said: "What's all this fuss about?" and proceeded to examine the "frosted foliage." I did not tell him or anyone else what it *was*. I knew they would all laugh.

Next year it fell to my lot to decorate the font at Christchurch, and I frosted all the mossy bank at its foot and the Ivy trails (no Holly, for fear the babies might get pricked). As luck had it, there was a sharp hoar frost on Christmas morning, and the font being close to the west doors, the congregation, entering, thought the frost had caught my decorations, and were much surprised, when coming out, to see the frost still on the moss and leaves.

ANNE AMATEUR.

The R.H.S. Gardener's Diary.—This very useful and moderately priced diary is now on sale for 1922. It contains, as usual, many useful reminders and much miscellaneous information of service to the gardener, whether amateur or professional. All the R.H.S. meetings throughout the year are recorded, and it will be noted that the experiment of two-day "fortnightlies" is continued. All the meetings from the beginning of March to the end of June are in 1922 to be two-day affairs. Fellows or others purchasing the diary would be well advised to note the alteration of date of the great Autumn Show, which now runs from Tuesday, October 3, to Friday, October 6, instead of from October 4 to 7, as shown in the diary. The diary, which is published by the firm so justly famous for its diaries, Messrs. Charles Letts and Co., is a bargain at the price, 2s. It can, of course, be obtained from the Royal Horticultural Society, if desired.

Trial of Savoy Cabbages at Wisley, 1921.—The following awards have been made to Savoy Cabbages by the Council of the Royal Horticultural Society after trial at Wisley. Awards of Merit.—No. 10, New Year, sent by Messrs. Barr; Nos. 18, 19 and 39, Early Favourite (for earliness), Dickson and Robinson, Toogood, Barr; No. 22, Latest of All, Watkins and Simpson; No. 23, Belleville (for garden use), Watkins and Simpson; No. 31, Selected Drumhead, Dobbie; Nos. 49 and 50, Ormskirk Late, Clucas, Bees; Nos. 36 and 37, Best of All, Watkins and Simpson, Sydenham. Highly Commended.—Nos. 32 and 33, Drumhead, Simpson, Barr; No. 40, The Toogood, Toogood; Nos. 42 and 43, Covent Garden Select Late, Veitch, Watkins and Simpson; No. 46, Ormskirk Late, Scarlet.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

ROCK GARDEN.

PLANTS FOR ROCK GARDEN (C. W. W., Forfarshire).—We cannot understand why the majority of alpines have failed to grow in our correspondent's garden. It is, however, possible that the soil is at fault. The great majority of the available species and varieties of alpine plants are comparatively easy to grow if the few essentials for their well being are understood. Nor should the cold climate, unless associated with a great winter rainfall, be blamed, because the alpines are natives of a cold climate and mortality among alpines in this country is always greatest during mild winters. The chief essentials are absolute exposure to overhead light—there should be no shade from trees at any time of the day—and a well drained soil. The quantity of sun that directly reaches the plants is not such an important matter, though there are a number of kinds that will enjoy sunshine in abundance. If there are large trees growing within 50ft. or 60ft. of the rock garden it would be wise to dig a trench and sever the roots that are almost certain to have reached the rock garden and be robbing the soil there. If the soil is not above suspicion it should be removed from the pockets that are to be replanted and, after the drainage has been made effective, replaced by a fresh mixture. A mixture of fibrous loam, with good proportions of leaf mould, coarse grit and lime rubble would be an admirable rooting medium. No fresh manure should be added. The lime rubble is very important—quite 95 per cent. of alpines "cry aloud for lime." Until greater success in the rock garden has been attained, it would be well not to plant the few "difficult" species, such as Dianthus glacialis and D. callizonus; all the alpine Androsaces, except perhaps A. pubescens and A. helvetica; the Himalayan species are not so difficult; nearly all Gentians, except Gentiana acaulis Eritrichiumnanum. The following is a selection of alpines that should not present any cultural difficulties: Alyssum, Arabis, Arenaria, Aubrietia, Cerastium, Draba, Erodium, Erysimum, Gypsophila, Helianthemum, Hypericum, Iberis, Linum, Lychnis, Phlox, Papaver and Sedum, all species. Campanula alpina, C. cæspitosa, C. G. F. Wilson, C. garganica, C. pusilla, C. p. alba, Cardamine trifoliata, Daphne Cneorum majus, Leontopodium alpinum, all hardy garden Primulas, Saxifraga Cotyledon pyramidalis, Aizoon and varieties, S. altissima, S. Burseriana, S. cæsia, S. oppositifolia, S. lantoscana, Tunica Saxifraga, Thymus Serpyllum, T. lanuginosus. Veronica rupestris, V. saxatilis and Wahlebergia serpyllifolia major.

THE GREENHOUSE.

CARNATIONS ATTACKED (Cornubia, Devon).—The Carnations are attacked by the well known leaf-spot due to the fungus Heterosporium echinulatum. This disease can be kept in check by maintaining a dry atmosphere about the plants. Both it and rust (which is present, too, in smaller amount) are encouraged by a moist atmosphere. The diseased leaves should be removed and the plants sprayed with potassium sulphide, 1oz. to 3 gallons of water.

FRUIT GARDEN.

APPLES UNSATISFACTORY (E. M., Wallingford).—There is a certain small amount of bitter pit in the Apple (Cox's Orange ?) sent. This is due not to any fungus or insect attack, but to inequalities in the water supply. Every effort should be made to maintain a constant and regular supply of water to the trees by hoeing and good drainage.

THE GARDEN

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NOTES OF THE WEEK

[December 31, 1921.

"Ring out, wild bells, to the wild sky,
The flying cloud, the frosty light;
The year is dying in the night;
Ring out, wild bells, and let him die.

"Ring out the old, ring in the new,
Ring, happy bells, across the snow;
The year is going, let him go;
Ring out the false, ring in the true."

THIS is to wish all friends of The Garden, whether amateur or professional, a very happy and prosperous New Year. The present general depression in trade cannot but have a detrimental effect upon the nursery and seed trades. There is, however, always a market for reliable trees or trustworthy seeds at fair prices. None the less, the Home market is not just now so prosperous that one can contemplate, with equanimity, the purchase from abroad of goods which can readily be produced in Britain.

The End of the Year.—In the strictest sense, the gardening year is never ending. This is, however, a truism which can be overemphasised. The end of the year is, in whatever light one views it, but as an arbitrarily fixed starting point on an endless band. To the gardener, however, the New Year does, in fact, mark the first noticeable "drawing out" of the hours of daylight. It marks the quickening of greenhouse fires, since growth under glass now rapidly tends to be stockier and more robust. It represents, above all, the arrival of seed lists and the selecting of varieties of vegetable and flower seeds for the coming season. To gardeners, then, as to those unfortunates outside the horticultural pale, "Jan. 1" does verily represent a turned page. The year 1921 could not, by any stretch of the imagination, be called a good one for the garden or its attendants, but it has, at least, to its credit that it has builded a good foundation on which to erect a more prosperous 1922.

Flowers that Usher in the Year.—It is not surprising that there are few flowers which bloom outdoors in the dead of winter. It is really extraordinary that one can gather flowers at all when days are short and ground is cold. If slugs are circumvented one can always rely on finding Christmas Roses now, and it is very rarely that sprays of the beautiful Erica darleyensis (mediterranea hybrida) may not be gathered on New Year's Day. The Witch Hazels, of which our illustration shows one of the best species, are less certain, but in the South, at any rate, the coming month will see their branches clad with their quaint but beautiful pale golden blossoms. No garden should be without these most enheartening of flowering shrubs. Indoors one still may cut Chrysanthemums, but they are the flowers of winter—relics of the year that dies. Hellebore and Erica, Hamamelis and Winter Aconite are the heralds of advancing spring, so doubly welcome.

Foreign Roses.—There has recently been in the horticultural trade Press a discussion on the conduct of a Dutchman who has settled in England and is offering, by retail, Roses without any trade description which would suggest their foreign origin. On being bluntly asked as to their origin, he is alleged to have replied by libelling the British growers and by suggesting that Dutch Roses were as good or better than those British grown. This last assertion can only be described as a falsehood. No really reputable Dutch grower would make the claim. So much by the way. The real point of the business is, however, that it is no offence to sell foreign Roses in this country without accurately setting out their origin. This has, unfortunately, always applied to plants, seeds, bulbs and tubers. It applies now apparently to manufactured articles of all kinds, so that the chances of reform look more hopeless than ever. The reason, we are led to suppose, why German goods, for instance, may be sold without a description of origin is that they might be so good as to encourage people to ask for German goods again. What a preposterous contention! What a libel on British producer and purchaser alike! "The darkest night is before the dawn"—may it be so in this case, and may the horticultural trade obtain that simple protection which should be the birthright of all productive industries.

IN FAVOURED SITES THE WITCH HAZEL WILL NOW BE HERALDING THE NEW YEAR. HAMAMELIS MOLLIS, ONE OF THE MOST BEAUTIFUL.

Iris Classification.—The Royal Horticultural Society, finding, as it were, the ground cut from under its feet by the forthcoming International Iris Conference promoted by the Société Nationale d'Horticulture de France, has decided to complete the classification which it has been carrying out for several seasons and hold a conference of its own. It is unfortunate, as Mr. Pilkington says in a letter in this issue, that this International Conference could not have been held in London. Whether it will be possible for the French Society to do in a few weeks what our own Society has taken years to complete must be a matter of opinion, but probably the differences of method reflect the equally marked temperamental differences of the two peoples. It is to be hoped that no sense of forestallment will hinder the R.H.S. and our British raisers and botanists from doing everything in their power to make the International Conference a very real success. This most popular of hardy border flowers has for long sadly needed the straightening out of its too confused nomenclature

WILD FLOWERS IN CALIFORNIA

The following account of some of California's Wildings, with graphic descriptions of their habitats, should help towards a better understanding of their culture in Britain.

WHEN it is realised that California is a strip of land not much wider than England, yet some 800 miles in length, that it extends from rainy Oregon and its Apple orchards in the north to the land of the Aloe and the Palm at the very gateway of the Tropics, one need hardly point out that the flora of the El Dorado State presents no less diversity than her climate. And the above facts will, I think, be sufficient to explain why, in the space of a short article, I have not attempted to do more than allude to a few of those wild flowers of that wonderful land which made the most enduring impression upon my mind and most of which are familiar to our home gardens.

Odd as it may seem, I saw comparatively little of the Californian Poppy (Eschscholtzia) in its native land, of which it is the "floral emblem," but it sometimes appeared as a cheerful wilding by the dusty roadsides along with Nemophila insignis, Layia elegans and the still prettier L. glandulosa, with paper white rays and a yellow eye. The Gilias, half a dozen species, also lent the wide variety of their delicate shades of blue and lavender, rose and lilac to these grassy margins, and in places the Blue-Eyed Grass struck an unusual note with its stiff, Iris-like foliage and upright flowers, violet-blue with a yellow centre. Erysimum asperum, a Wallflower about 2ft. high with orange-yellow blossoms, I once found growing in semi-shade, is a most striking plant and one that I do not remember having seen in our gardens. It was, I believe, the same day, in a torrid valley, that yielded the "Pink Gentian" (Erythræa venusta), very like our own, but of a brighter pink, and great patches of Platystemon californicus and blue Delphiniums.

Shrubs aside, it was the Lupins which were much the most numerous as a genus and the most remarkable in colour effect along a goodly portion of a summer's trek from Santa Barbara northward. The roads by which I did the dusty tramp were often bounded on either side by rolling downs which were as thickly studded with the little annual blue Lupin (L. nanus) as a field of Daisies in May. Miles of country were chequered thus by the blue and white mosaic of this redundant plant, the sweet fragrance of which bore memories of the Bean fields of England. Not less memorable were certain sandy hills near Castroville, upon parts of which the Tree Lupin (L. arboreus) made forests of grey-green foliage and tossing sprays of yellow, often to the entire exclusion of all other vegetation. And the way in which this plant, as well as L. affinis, flourished in what at times was little better than drifting dune-sand was emphatic testimony to the value of the Lupin in land reclamation and fertilisation, to which purposes several species are to-day proving their practical worth both in this country and on the Continent.

Upon some of the sun-burned slopes Pentstemon heterophyllus made striking clumps of colour with its peculiarly metallic blue and rosy trumpets; but, though that more southern and stately species, P. spectabilis, was not uncommon in some of the gardens of Pasadena, I never saw it in a wild state. The handsome P. cordifolius, which at first glance might be taken for an orange-scarlet Fuchsia, rambled its way upwards through other shrubs to a height of 8ft. at Santa Barbara—a wonderfully showy species, but one that would probably prove too tender here for general outdoor planting. P. labrosus, however, which is associated with the Pines of the southern hills of the State, might be safer in our climate, and its 3ft. stems freely adorned with spikes of vivid scarlet flowers, held more or less upright, and long, elegant leaves, together make it a most attractive plant.

The Californian Phacelias, notably grandiflora, Whitlavia, Parryi and humilis are generally

A MOUNTAIN TRAIL, SANTA BARBARA.

associated with forest fires; for, just as Foxgloves will spring up in countless multitudes after the burning of our own moors, so these Phacelias may often be seen covering the wake of those awful conflagrations which too frequently sweep across some of the noblest forests of the Sierras, leaving behind them a desolation of ashes. Another annual which will follow these fires with even greater precocity is Emmenanthe penduliflora, but its pale yellow bells would only serve to intensify the wonderful velvety blues of the Phacelias, did they both appear at the same time. P. humilis is an alpine, a very choice little thing, found at a height of about 6,000ft. Though but 3ins. or 4ins. high, the flowers are large and of an intense indigo blue.

Two species of Castilleja, Martini and californica, were much in evidence on the dry, rocky knolls of many a broiling inland valley, their bold bracts of soldier's scarlet blazing with an almost aggressive opulence where other plants were yielding to the heat. So also would the familiar Collinsia bicolor often be seen cheerfully dappling with white and purple the sun-parched slope; but none of these can, I think, equal the woolly Trichostema lanatum as drought-resisters. This strange-looking plant, a shrubby perennial of about 4ft. in height and not unlike Perowskia atriplicifolia, is allied to the Sages. It produces spikes of blue flowers wrapped in a violet-hued silk and thoroughly enjoys itself on the hottest of rocky ledges in full summer, when most of its companions have "gone under" till the rainy season comes round again.

In the cooler regions of the State, in those watered valleys where superb Lilium Humboldtii raises its stately pyramid of deep orange and maroon blossoms and the Panther Lily is seen in the brightest and best of all its forms, one may push through jungles of Azalea occidentalis. In one glen I have a vivid recollection of how this shrub made a shoulder-high undergrowth to a wood of tall, clean-stemmed Oaks. So closely and so evenly did the Azaleas grow, that the lean boles of the trees rose from a billowy carpet of soft green and creamy-white flowers. Broad-winged butterflies fluttered through the heavily perfumed air and these, with the number of humming-birds which poised and buzzed about the gaping blossoms, gave to the scene a touch of tropical splendour. In such glades as these you will also, if fortune favours, come across Carpentaria californica, fragrant as "Mock Orange," and many an open space will be covered with Diplacus glutinosus, which makes amends for its scentless flowers by emitting a sweetly aromatic odour from its sticky leaves. What struck me as curious about this elegant shrub, which, by the way, might be much more often seen in English gardens, was the extraordinary variation in the colours of the blossoms. These ranged from the palest cream through ivory and buff to rich golden russet and maroon.

Saxifraga peltata I only saw in its summer leafage, but this familiar aquatic grew with such vigour along the banks of some of the northern streams, that its thongy roots made great shelving ledges along the water-side, these being sometimes strong enough to bear my weight while I angled for a breakfast of rainbow trout. The leaves,

however, were no larger than one sees them in our home gardens. It was along the banks of one of these rivers that I discovered California's Wild Rose (Rosa californica), a fragrant little flower of a very deep shade of pink which, together with the delicate green of its foliage, reminded one of R. alpina.

But of all Californian flowering shrubs I question whether there are any which create an effect so wonderful as the Ceanothus; certainly not on the foothills of the more southerly counties. C. thyrsiflorus divaricatus (of gardens) appeared the most widespread species. There are whole ranges of hills as thickly clothed with this shrub as a Scottish hillside is covered with Heather. This "chapparel," or brush, grows so closely that the dark green of the Ceanothus hugs the mountain slopes from base to summit with a clinging mantle of green which at a distance looks as firm and smooth as well-clipped Yew. But spring brings a transformation that must be seen to be realised, for in a few days that sombre verdure becomes flooded with a clear azure, flecked, it may be, here and there with foamy scuds of white. At close quarters the flowers of the "Californian Lilac" are a little dulled with a purplish tint, but in the mass and at a distance they are purged of this stain and dominate all else with their cold, almost Plumbago blue.

It was while making a three days' tramp by pack-trail across one of these ranges in Ceanothus-time that I saw my first Dendromecon rigidum on its native soil. Rather should I write rock, for this specimen was growing in the chinks of a cliff as cheerfully as a Mountain Ash. It was covered with bloom and the ground beneath it littered with its golden petals. There is something so peculiarly distinct and attractive about this shrub that it is unfortunate that it should still be so uncommon in English gardens. It often has to stand some frost on its native hills, and is a good deal hardier here than is generally supposed.

A. T. JOHNSON.

On the Threshold of a New Year

ONCE more a New Year has come round, but, as far as the name goes, one might well ask, "Which one?" For Nature the year opens about the end of March, when, to the music of birds and the inspiring breath of spring, vegetation awakes from its period of rest. For the public the horticultural year reaches its climax at the Chelsea Show, which also provides a good point from which to view the trend of events and measure the progress made during the previous twelve months. In one sense, therefore, June is the beginning of a new year. For the gardener the starting point—if, indeed, there be one—is the end of September, when summer crops are over and serious ground preparation and planting for the next season have to be considered.

Having thus found a new year beginning with three of the four quarters, we come to the present time, which the calendar and convention have established as *the* New Year and characterised as the season of icicles, new diaries and good resolutions. It would be interesting to know how many times during the past twenty years the first of January has witnessed severe frost, and why good resolutions should not be regarded as equally seasonable at any other time. There is, however, some justification for accepting convention and pausing for a moment on the threshold "to look before and after."

The name "January" implies a doorway from which is obtained an outlook on two scenes separated by a wall. Though it refers primarily to the dividing line between the old year and the new, it can also be applied in another way.

The thought of a garden carries with it the idea of a wall which, though possibly made the basis of ornament, is really intended to maintain the seclusion of the interior by forming a barrier against the distracting influences of the outside world. On the same principle a paper such as this is not ordinarily concerned with any but strictly horticultural interests and activities. At such a time as this, however, it is well to look through the door to see what is happening outside and what relation it bears to activities within.

The purpose of a garden is not to provide a fool's paradise by conveying a sense of security and isolation from the realities of life; indeed, a true garden cannot be such, since its success depends on wise management, and its enjoyment on intelligent appreciation. It is the source of the most creative pleasure which can be shared by others as well as the owner. A garden wall, therefore, need not be the sign of selfish luxury, but the margin of a little oasis of happiness, the influence of which is felt more widely than its immediate bounds. If its function in this respect is recognised its value is greatly increased.

Looking at affairs outside horticulture, what do we see? In this and other countries there is widespread unemployment; in Russia and Central Europe, wholesale starvation; storm clouds gathering on the Eastern horizon, and everywhere signs of a strong undercurrent of unrest. Conferences and negotiations express, on the other hand, a genuine desire for peace which must be shared by all sober-minded people. The outlook may not appear bright, and the question will doubtless arise, "What has all this to do with horticulture?" The answer is, "Everything." The night appears blackest when viewed from the open doorway of a lighted room. In looking, from the horticultural standpoint, through "the door in the wall" we have the source of the brightest hope behind us.

The reason is this. Social instability is caused by the expression of a side of human nature which is brought into prominence by two things: the shortage of food—and the worldly possessions which a surplus of it makes possible—and the lack of healthy occupation. These two things are just what horticulture is the most effective means of supplying. On its utility side it produces more food from a given area of ground than even farming can; on its ornamental side it does much to make the world a brighter place to live in. Intellectual ability finds here unlimited scope for development and application, and the fighting spirit finds a worthy cause in the warfare with disease and other destructive agencies.

The old-established association of peace and happiness with a garden is worth noticing. Paradise itself was a garden, and the brightest picture of future earthly happiness represents every man under his own Vine and his own Fig tree. Myth and legend have the same story to tell, and there is doubtless a significance in the belief in herbs as the cure for physical ills which was the sole motive for gardening in the Middle Ages.

During the war the food production campaign emphasised the importance of utility gardening. The feverish culture of that time has toned down, but the effects of the impetus have not been lost. Some of the interest which then centred on utility has now been caught by the decorative side of the subject. Science, too, is finding rich fields for activity in the problems connected with the soil and plant life, and its results are triumphing over prejudice. The absurdity of divorcing science from art, and theory from practice, is evident when one remembers that these are the two pairs of opposite walls which enable horticulture to "stand foursquare to all the winds that blow."

We have got the centre of the edifice well established, but it needs extending, and, for this, new foundations are required. With wild and visionary "back to the land" schemes we have nothing to do. With a deeper and more general public appreciation of what the highest form of land culture means we are greatly concerned, since on this alone can extension be well founded.

That the sphere of the beneficent influence of gardening shall widen should be our resolution for 1922.

A. E. SIMS.

MORE SHRUBS IN CORNISH GARDENS

ONE of the most sweet-scented of the shrubs that grow in these Cornish gardens is Pittosporum eugenioides. One bush of this, when covered with its clusters of yellow flowers, will fill a whole garden with a scent like honey. P. tenuifolium, also, with little madder-purple flowers, has a fragrance delightful to encounter in a garden walk. The tall P. crassifolium, with stout grey-green leaves, is one of the most valuable of its race, for it makes a splendid wind-screen in exposed places, and P. Fairchildi has the same sort of beauty.

Olearia Traversi is another valuable, though not showy, plant for these windy gardens. It has lovely white undersides to the leaves, grows fast and stands any amount of wind—up to the point, that is to say, at which its trunk would get broken off—so that it would be more largely used, I imagine, in seaside gardens if it were better known.

Another Olearia, O. semidentata, was briefly referred to, but not described, in an article in THE GARDEN the other day. It is certainly one of the most beautiful of its kind, with silvered leaves of beautiful shape, and a profusion of large pale lilac daisies. Here it makes round-headed bushes a yard or two across, as it does in its home on Chatham Island. There are some beautiful pictures of this and of Olearia Traversi in the account of the Chatham Island Expedition in the R.H.S. Journal for October, 1911 (Vol. XXXVII., part 1.)

Few sights are more striking to a newcomer to Cornish gardens in early spring than the Camellias—huge decorative bushes of them laden with red and white flowers. I find many people speak rather scornfully of them; but this seems to me to be a mistake, due largely to the over-planting of the old double red and white sorts. A Camellia flower need not always be the prim formal rosette that one sees most commonly here: it need not even be scentless. Some of the single Camellias, such as Paul's Jupiter, a magnificent deep pink, Pride of Waltham, a rich red, or one of the single white sorts, such as The Swan, are of

rare beauty of form, as well as colour; and a single white sort, which I only know under the name of oleifera (R. Veitch, Exeter), has a delicious scent. I cannot help thinking that, if these single varieties, and some of the species, such as cuspidata, were better known, the Camellia would be better loved than it is.

Of course, what I have been saying does not apply to C. reticulata, that marvel, the pride of every gardener in Cornwall and one of the most eye-filling flowers in the world. Reticulata must have been designed by Providence specially to satisfy the not-too-sophisticated gardener's desire for a flower at once sumptuous and slightly formal: not as formal as a double Begonia, but as rich as a tree Pæony or a Rose. No wonder

WORTH GROWING, EVEN THOUGH IT NEVER FRUITED. CORNUS CAPITATA (BENTHAMIA FRAGIFERA).

it is a great competition flower in this county! and the first sight of those great rose-red splashes on a wall is unforgettable.

I wish, by the way, that someone would write an article in THE GARDEN on some of the rarer Camellias, such as cuspidata, magnoliæflora, Gauntletti, and also on the old sorts, Doucklaari, and the pied and spotted ones they grow in Belgium.

Benthamia fragifera is a favourite tree here, but I confess I was rather disappointed when first I saw it in flower. The profusion of flower-like bracts is so great that the leaves are almost hidden; but their creamy colour is too much degraded with green, too near in tone to the leaves, to make a satisfactory effect. Still, it is, of course, a striking tree, even if it never produced its strawberry-like fruit.

Of climbers that I have specially noted, here are a few more: Passiflora racemosa, smothered with bunches of Passion Flowers of a muted rose colour, one of the loveliest plants imaginable for growing all by itself against a grey wall or rock; Stauntonia latifolia, with evergreen leaves a little like those of Clematis indivisa, and wonderfully scented flowers; Rhynchospermum jasminoides, the evergreen jasmine-like flower with intensely sweet smell that often grows on house walls in Italy. (This is fairly hardy, I believe, up-country.)

It would be absurd to try and write of the great race of Rhododendron in so short a space; and, besides, I have not yet had the chance of seeing the best that Cornwall can do in this line. But I must say a word in praise of two sorts which I had never seen in such a state before. The first is the white R. Aucklandi, a bush of it, 18ft. high or more, standing in a wood and hung from top to bottom with immense trumpets of a cool, faintly greenish white. The sight of this makes one stop silent in the path; it extends one's idea of what flowers can be like.

The second is R. Lady A. Fitzwilliam. Years ago, in the large greenhouse at Kew, I chose this sort for its smell, as well as for its beauty here I found great bushes of it in the open. In some gardens the flowers suffered from the severe frost of December last; but those that survived and opened in May were even better than the remembered ones, white with a flush of colour on the buds, and with a scent like Honeysuckle. I have still, however, to see Maddeni, Sesterianum and the others at their best.

I will finish with a flower of a colour so subtle that many would pass it by, one of the loveliest of them all. Have you ever seen Pentapterygium? The flowers hang under the branches like little hexagonal horn-coloured lanterns, held in calyces of an unusual red, and marked with a pattern in the same colour. No; I am afraid it is true that my lantern flower, like the little black Iris and the green Ixia and Astrantia, is not "everybody's flower," but I do not care!

I see I have left out many of the plants I like best—Plagianthus, and Hoherea, and Eucryphia, the Bignonias, and lots beside. But these were just "notes," not an "anthology." Z.

THE PROPAGATION OF THE BORDER CHRYSANTHEMUM

Hints by a working amateur, with notes on the propagation of hardy plants in general.

THE owner of every garden, large or small, must realise the truth of the axiom "Place à la jeunesse," for, to keep up a satisfactory standard, old plants must constantly be replaced by young ones. Rose growers realise this, and the "herbaceous man" should not lag behind. "The year is dying . . . let him die," for does not this mean that in a very few weeks we shall see the "Snowdrop spears," the "Crocus fires," the "Primrose stars in the shadowy grass," and the streams of Daffodils, white, cream, gold and amber, rippling down the slopes of such an Eden as Spetchley Park, sparkling in the sunshine after rain, when it is—

"Oh! to be in England now that April's here!"

Already, then, we may begin to think of next year's work. Take the outdoor Chrysanthemums. In some gardens these may safely be left out all winter, merely covering them with a protective crown of ashes. In light soils, however, they often decay and rot away from constant changes of frost and thaw. It is better in such circumstances to lift them in November and house in a cold frame or dry light shed where they may be closely packed together in some soil on the floor.

In February give water as required when starting into growth. When the shoots are 4ins. to 5ins. long remove with a sharp knife—some will have two or three fibrous roots attached, which should be retained. Put into boxes, pans or shallow pots of light soil (the shallow bulb pots made by Messrs. Dowell of Hammersmith are excellent for cuttings), and keep close in a frame until well rooted. It will hasten matters if roc can be found for them over a mild hot-bed or in a slightly warmed greenhouse, over the pipes.

In April plant out in a cold frame; when well established pinch off the tops, and at the end of May, when the lights have been kept off for a week, stocky little plants are ready for instant establishment in their flowering quarters.

A few golden rules to remember about all cuttings:

1. The best are young shoots which have not flowered—no hollow-stemmed pieces are of the slightest use.

2. They must never be allowed to flag—a few pint or half-pint enamel basins of water should be ready into which the bunches of cuttings may be placed as soon as taken, and also after being trimmed. There, if necessary, they can safely remain until next day (indeed, soft things like Violas are all the better for the delay) if the operation cannot be completed the first day.

3. All cuttings must rest on a *firm base*—there must be no space below them where moisture can collect and so rot the cutting. Probably 90 per cent. of failures arise from this cause.

4. They must be put in quite firmly.

5. The best position for cutting frames is the north side of a wall, shaded from the sun.

Propagation is a very absorbing branch of gardening, and may be indulged in at least ten months out of the twelve.

The wealthy man can order his plants at will, perhaps by the hundred—but I doubt if he ever derives as much real happiness from his garden as does the small amateur who saves his pennies to buy one or two good things and then propagates intelligently. His plants are then his children, not by adoption, but by creation—and their home becomes a thing of beauty and his heart's delight. In the words of David Grayson, "what I think I have the indiscretion to write down—without apology. My *gardening* has been without rule or reason, and not even for instruction, but wilfully for enjoyment, and I have written because, somehow, I could not help it."

W. DUGGAN.

ELEANOR is a pure white with a deep crimson-purple centre, which makes it a good companion for the now thoroughly well known Susan and Jary. The flower, which is more double than ome of the earlier introductions, has fringed tals. The individual blooms are large, sometimes measuring over 2ins. across. The habit of the plant is neat and compact.

HUGH is a rich crimson-purple self of strong and erect growth. It is the first of the Allwood Pinks to carry this colour. This, too, has large double flowers.

JOYCE is a light pink with a tan centre. It has a slender habit of growth, but holds itself erect and needs no staking. It is wonderfully free flowering. This variety is a graceful one for decorative purposes.

LOTTIE is a pale salmon self of a very pretty shade. It has the same habit as Jean, being a double, loosely built flower and very floriferous.

MAUD is another self colour of a lovely shade of salmon-rose. This is, perhaps, one of the best colours yet evolved. It has medium-sized flowers, which are freely borne in clusters, and its short, compact habit makes it invaluable for rockeries, dry walls and edges of paths.

MARION is a beautiful shell pink, after the style of Rose Dorothy Perkins, and its fine form, fringed edge and delightful fragrance combine to make it an ideal self. In addition, it has a good erect habit and it is very free.

NELL resembles the Perpetual Carnation R. F. Felton, being almost peach-pink. Its large flowers are beautifully fringed, while its strong, erect growth makes it useful for planting in herbaceous borders.

PEGGY is a pale pink of different shade from the above varieties, with a fringed edge. It is a quick grower and very free.

RHODA is a deep rosy mauve with dark crimson centre. The semi-double flowers are freely produced in clusters, and its good habit makes it a useful border plant.

In VERA we have yet another pale pink self, differing slightly from Peggy. The flowers are carried in clusters and are semi-double. It has a smooth edged petal, is very compact in growth and ideal for rockeries.

BETTY is in its second season, but it is so charming that it may well be mentioned. It is a dainty flower with a pretty maroon red centre on a white ground. As an edging for a bed nothing could be more desirable.

These flowers are of such easy culture and so accommodating that they should soon be found in almost every garden. They can be transplanted at any time of year if purchased out of pots, but the better plan is to have them in their permanent quarters before the growing season commences. They rapidly make big plants, some that I put out three months ago having more than trebled their size. So far as I can see, they seem to be practically immune from disease. If only we could say the same about Roses, Sweet Peas and other favourites, how easy gardening would be! L.

THE NEW SWEET PEAS

THE desire for something new is just as great in the realm of horticulture as it is in other branches of our social life. It provides a feeling of hope and anticipation that continued culture of old and trusty favourites fails to produce, and, moreover, it stimulates the efforts of raisers. The latter have for 1922 given us something like the pre-war quota of Sweet Pea novelties. How many will stand the test of their first season remains to be seen, but some of them are distinctly promising, and a few should find a place in every collection.

Messrs. Robert Bolton and Son, Baythorne End, near Halstead, Essex, have the following novelties to offer:

GLORIOSA.—An intense orange-scarlet with a glowing orange sheen. The whole colour blend is very brilliant, and may be described as flame. This variety is of very vigorous habit, producing plenty of four-bloomed sprays on long stems. It has received the award of merit of the N.S.P.S. and was reserved for the gold medal for the best novelty of the year.

COLNE VALLEY.—A distinct pale lavender-blue. It is of very vigorous habit, producing an abundance of fours, while the flowers are large and well frilled. This variety often gives well placed fives. Awards of merit from the N.S.P.S. and R.H.S,

SUNSET.—A brilliant rich rose on a cream ground, with a creamy-yellow base that lights up the flower. It is of most vigorous habit and one of the strongest and largest Sweet Peas in commerce. Awards of merit N.S.P.S. and R.H.S.

MATCHLESS.—A cream self of the same habit and size as Picture, which is in itself sufficient recommendation to those who know the giant proportions of the latter. If it proves an equally good counterpart it will have come to stay

CHELSEA.—A distinct art shade of mauve-pink on a salmon buff ground. If shaded, the flower has a silky appearance, reminiscent of the unique colouring of the old variety, Charles Foster, to which it is probably related.

Mr. S. F. Curtis, Wingate, Saul Road, Lancaster, who has recently raised some excellent varieties strong in habit and remarkable for the large number of four-bloomed sprays which they produce, this time gives us two fine novelties in:

INNOCENCE, a pure, well frilled paper white of strong habit, and

CORONA, a distinct shade of rich heliotrope on a cream ground. The colour gradually spreads over the bloom till, in the later stages, it appears like a self shade. I grew both these varieties for trial during the past season and was very pleased with them.

Messrs. Alex. Dickson and Sons, Limited (Hawlmark), Belfast, have four novelties, as follows:

HAWLMARK CERISE.—A very fine salmon cerise, which was so prominent at the National Sweet Pea Society's Trials in 1920, and which has since received the Society's award of merit. It is a bright colour for the garden, quite sunproof, and ideal for culture under glass. It is also beautiful under artificial light.

CONQUEST.—A very pretty Sweet Pea with shades of rose and salmon-pink on a pure white ground, with more colour towards the edge of the petals than in the centre of the bloom.

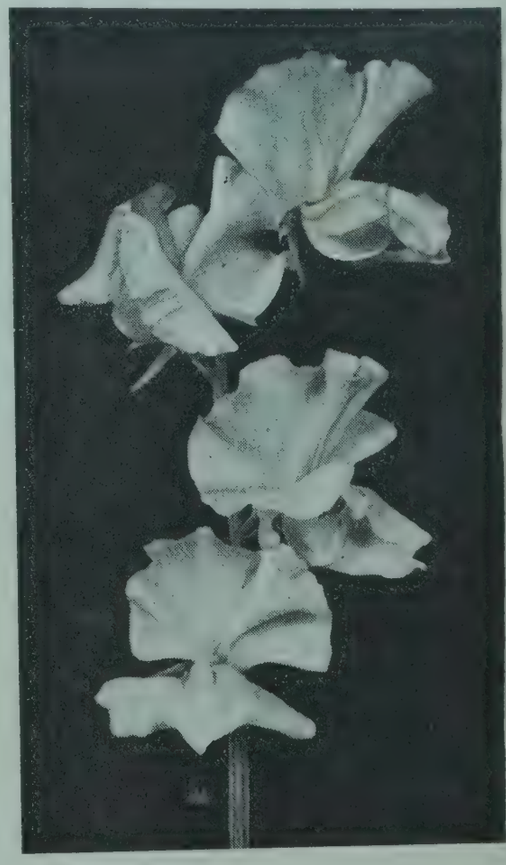
HAWLMARK SALMON PINK.—This variety contains the same rich shade of pink that is so characteristic of Hawlmark Pink, but there is a salmon shading which enlivens the whole flower. It produces flowers of large size on long stems, with an abundance of four-bloomed sprays.

RAVENSWING.—Darker than any varieties already sent out in the maroon and mahogany section, it is a near approach to the colour of the Pansy Black Prince.

Messrs. Dobbie and Co., Edinburgh, have also four novelties.

GEORGE SHAWYER.—One of the most beautiful Sweet Peas for culture under glass, when the colour is a rich shade of orange pink with a distinct orange-salmon standard. It is very vigorous and gives an abundance of fours and occasional fives. It has received awards of merit from the N.S.P.S. and R.H.S., and the F.C.C. of the Royal Caledonian Horticultural Society.

DIGNITY.—A very fine rich cream-pink of splendid habit. The flowers are well frilled and beautifully placed on the stems. It will make a good exhibition variety in this popular shade, which is also a favourite colour for decorative work.



SWEET PEA DIGNITY.

RENOWN.—An improved form of the old favourite, John Ingman. It is a more pleasing shade of rosy carmine and has superior flowers. It has been awarded the F.C.C. of the Royal Caledonian Horticultural Society.

FIELD MARSHAL.—A distinct shade of deep blood-crimson. It is very vigorous and produces its large blooms mostly in fours, while, with good culture, fives and even sevens can be obtained.

Messrs. Ireland and Hitchcock, Marks Tey, Essex, have:

MASCOTT'S INGMAN, their largely improved stock of John Ingman, which is a flower of giant proportions, and a rival of Dobbie's Renown, and

BUNTY, a vigorous orange pink of deep and rich colour and good form.

Messrs. E. W. King and Co., Coggeshall, Essex, have:

COVENT GARDEN PINK, a richly coloured Hercules, of the same vigorous habit, but deeper in tone. It has proved an excellent market variety and this fact has suggested the name

Mr. G. Stark, of Great Ryburgh, Norfolk, has sold his stock of a fine new white which he raised some time ago to Mr David Burpee, of Messrs. W Atlee Burpee and Co., Philadelphia, U.S.A., who are sending it out as

BURPEE'S GIANT WHITE. It is a [illegible] variety of the Constance Hinton type, with the

same solid substance that has made the latter so great a favourite. It has a fine, broad, well frilled standard, and produces four-bloomed sprays in abundance.

Mr. Stark is sending out in his own packets:

Duplex Helen Williams Improved.—This is a double form of the older variety, which has the same beautiful blend of colour as the popular Jean Ireland.

Mr. J. Stevenson, Wimborne, Dorset, has two novelties:

Crimson Glow is a rich velvety crimson of a deep and glowing shade, which is quite distinct from other crimsons. It is a sturdy grower and produces plenty of four-bloomed sprays.

Sunset is a lovely salmon-orange, which is recommended for culture under glass. When grown outside it requires shading. It is of vigorous growth and gives a good proportion of fours.

Mr. W. J. Unwin, Histon, Cambridge, has the following three novelties:

Unwin's Crimson.—This is a large crimson-scarlet self which is quite sunproof. It keeps its colour well when cut. As it is of very vigorous habit it should make a useful addition to the dark shades.

Edith.—Virtually an improved Daisybud, with the same rich shade of pink, suffused with salmon, on a white ground. The delicate colouring is intensified by many double standards.

Captain Charles Burgess.—Of apple blossom colouring, bright salmon-pink on a white ground, the colour deepening towards the base of the standard and wings. It makes a very telling bunch.

Mr. F. C. Woodcock, Drum Hill, Walmer, Kent, has three new varieties to offer. I have grown them for trial during the past two seasons and can confidently recommend them to those who are partial to the rich shades. All three require a little shade when the sun is powerful:

Salmon Queen has more vigour and produces a larger proportion of fours than any other salmon variety. The beautiful colour is enhanced by many double standards.

Scarlet Queen is a bright shade lit up by a cerise tone. It is unusually vigorous for a scarlet and gives a greater percentage of four-bloomed sprays than other of similar colour.

Invicta is between the colour of Mrs. G. W. Bishop and Climax, a sort of salmon-carmine or vieux rose, now a very popular shade. Four-bloomed sprays are abundant and the large flowers are freely produced on long stems.

It is a noteworthy fact that seven of the above-named novelties head their respective colour sections in the New Classification List issued by the National Sweet Pea Society. They are Colne Valley, Renown, Hawlmark Cerise, Conquest, George Shawyer, Gloriosa and Sunset (Bolton's). This is some proof of their merit. Norman Lambert.

CORRESPONDENCE

INTERNATIONAL IRIS CONFERENCE.

THE notice on page 643 of The Garden for December 17 *re* the proposed International Iris Conference will have been read with interest by many Iris enthusiasts, but at the same time, I fear, with keen disappointment by quite a number of nurserymen, hybridists and amateur growers. One is, naturally, very pleased to see the action of the French Horticultural Society in this matter, but one does feel that, considering that the R.H.S. has had in hand the Classification of Bearded Irises for the past five or six years, and, furthermore, that the subject was again raised at an Informal Conference on June 7 last, they should not, through lack of initiative, have let the French Society "get in" before them. No details of the proposed Conference has ever, to my knowledge, been made public, and the announcement that it is to be held in Paris must come as a great disappointment to many who have been counting on a Conference in this country. I would suggest that London is the proper rendezvous for such a Conference, and that the R.H.S. should ask the French Society to come over here, and also representatives of the American Iris Society, and that a Joint Conference be held sometime in the first week in June.—Geoffrey L. Pilkington.

[Our correspondent will see from the announcement on another page that the R.H.S. have decided to hold a special Iris meeting next June. It is, no doubt, a pity that the International Conference could not have been held in London, but as the French Society is so forward with its arrangements, it could hardly now be asked to come to London.—Ed.]

BRITISH BULBS.

IT seems that opinions are still divided among the Daffodil people as to whether it is advisable to form a new and independent National Daffodil Society or to convert the Midland into a National Society. In 1912 the whole matter was threshed out and the proposal to convert the Midland Society was rejected; I have been a member of the Midland Daffodil Society for many years, and I think it would be a great pity if we have a repetition of that discussion, with the probability of arriving at the same deadlock again. I suggest, therefore, that my proposal to form a "British Bulb Growers Association," is the solution of the difficulty. Such an association would be infinitely stronger than a National Daffodil Society, and for that very reason would be better able to care for the interests of the Daffodil as well as other bulbs. It would organise shows, support and assist local societies, advise growers on all matters connected with the trade, and issue a monthly or annual periodical with articles by the best authorities on all matters connected with the Daffodil and other bulbs, with reports of various shows, and could do some co-operative advertising on the lines suggested in your issue of November 12th. I have been a devoted slave to the Daffodil for many years; I am also a great admirer of the Tulip and I do not see that the Daffodil has any need to be jealous of her more brilliantly arrayed sister. Generally speaking, the Daffodil has left the stage before the Tulip's "turn" comes, and I feel that a strong association could do a great deal for the lovely Darwin and Cottage Tulips, which do not receive the attention that is due to them from the National Tulip Society.—W. A. Watts.

A NATIONAL DAFFODIL SOCIETY?

THERE seems to be some misunderstanding about what some of us mean when we urge that the Midland should become the National Society. Speaking for myself, and, I should imagine, others, too, I do not mean striking out the word "Midland" and putting in its place the word "National." That would no more call into being the thing we all wish for than the mapping out a scheme, be it ever so perfect, on paper. The minimum activities required from a National Society, in my opinion, are: (1) holding of two shows a year, one in London and one in Birmingham; (2) publishing of a year book; (3) the provision of classes sometime in early March for forced or pot-grown flowers in London; (4) provision for classes for dry bulbs in London in April; (5) deputations to any Daffodil show in Great Britain and Ireland when invited; (6) any necessary Daffodil legislation; (7) the united support of traders and amateurs, both of whom must be catered for. There would have to be a London organisation and there would have to be a Birmingham one to carry out the idea of two annual shows. It seems to me silly to scrap the organisation connected with the latter. It will take some doing to get a London one together. Walter T. Ware's letter to me, dated February 13th, 1913, puts what I wish to bring out in a nutshell. "Some people are crazy over having a National, but usually they are missing when the officers are proposed. They think National Societies are run without effort." Let me give a case in point. Even when I had all but got together the contents for a 1916 Year Book and was turned down, one or two members said they would try to produce a small book and, accordingly, set to work. We have not seen the result of their labours yet. Whoever runs a National Society, even on starting-off lines I have suggested, has got a big job; how tough he will not know until he has made a start and "got his teeth into it."—Joseph Jacob.

THE PORTUGAL LAUREL AS A HEDGE PLANT.

IN the article on "Garden Hedges," in The Garden of December 10, page 618, the writer, *inter alia*, observes: "The Portugal Laurel, of course, grows, at any rate in the South and Midlands, into a very dense and beautiful hedge, but this species by no means shares the fondness of the common Laurel for stiff, argillaceous soils." Might I give my own experience with it as a hedge plant? For the past forty years I have had charge of a Portugal Laurel hedge, growing in pure yellow clay at Broomfield, Davidson's Mains, Midlothian. When I took charge of it, it was about forty-five years of age; it was then in excellent health, and has remained so all those years, not an unhealthy plant to be seen in the whole stretch of 100yds. or so. I know another Portugal Laurel hedge of about the same age growing in stiff loam about half a mile from the first mentioned, and the same health and vigour has characterised it throughout its existence. I have found all the common evergreen shrubs to thrive well in pure yellow clay.—Charles Comfort.

[Our correspondent's remarks on the success of the Portugal Laurel in Midlothian are interesting. If given a good start there is no doubt it will succeed in sound, well drained loams. It has the merit not possessed by common Laurel, of vigour and long life on fertile sands and gravels.—Ed.]

OF INTEREST TO THE GROWER OF SUCCULENTS.

AS a regular reader of The Garden I am anxious to make a trial of a scheme which I hope will grow and prove useful to many other readers circumstanced similarly to myself. I have been an amateur cultivator of Cacti and succulents for many years; and, though I realise that at the present time this particular hobby does not count so many adherents as, say, Sweet Peas or Daffodils still I fancy there must be some others who would be prepared to discuss many interesting problems confronting those who take up this family of plants. I am, therefore, enclosing herewith a small advertisement, inviting correspondence from *bona fide* amateurs, and take the liberty to hope that my example may induce others to act similarly.—Opuntia.

A PROVENCAL MARKET IN DECEMBER.

THE following list of fruit and vegetables may be of interest to British readers. They are all local produce and grown in the open. Oranges, ordinary and Tangerine; Apples and Pears, several varieties; Persimmons, or Ka-ki or Japon-; these appear on almost every stall. I am told there are two varieties, Ka-ki musqade being the best. The small Grapes of the vineyards, and all I have seen here are white, but I have noted at least three varieties. There are also to be seen Pomegranates, Figs (the fresh Figs are over, but native dried Figs are plentiful); Tomatoes, rather poor specimens; ripe Olives, Lemons, scarce because of the trees having been killed by last winter's great frost; Melons, Gourds and Pumpkins of various sorts, Chestnuts, Walnuts, Sweet Peppers, both green and red—these appear in great numbers; Globe Artichokes and so-called Cardoons, which, I think, are just the stems of the "Choux"; excellent summer Spinach is very plentiful, and salading of Lettuce, Endive, Lamb's Lettuce, Radishes and Watercress. Sweet Potatoes seem quite common. There are plenty of young Carrots and Turnips, and, among other roots, Beetroot, Celeriac, Onions, Garlic, Salsafy, Jerusalem Artichokes and Chinese Artichokes (these last are not common); Celery is poor, lacking frost, but it is in demand by the hotels frequented by the British, where the more uncommon vegetables are little used. Brussels Sprouts also lack flavour owing to the mild climate. Cabbages of various sorts, Cauliflowers and Leeks are also to be seen, and French Beans. Almonds, stone Pine cones and Egg Plant fruits also sometimes appear, and dried Mushrooms or, more rarely, fresh ones. All the above I have seen myself within the last few days. The market is held in the open air, and all classes meet to make their purchases there. The produce all looks clean and very fresh, and by innumerable small purchases the large hampers are soon emptied. The French housewife knows how to make good use of this abundant choice. The market here is devoted mainly to fruit and vegetables, but variety is also to be found in the strange fish exhibited for sale, including hampers of sea urchins, which find many purchasers; and a poultry and game dealer had this morning, besides chickens and ducks, two woodcock, one partridge and a jay! The latter, he assured me, was very good to eat.—RUTH BUCHANAN. *Hyeres, Var, France.*

THE ENGLISH IVY AS A FLOWERING PLANT.

"A RARE old plant is the Ivy green," and one that has been immortalised both in song and story. As a climber utilised to redeem the baldness of our dwellings, it is a universal favourite, although it is an often-debated point as to whether it is helpful or hurtful to the structure itself. This Romany refers to the juvenile stage, and the writer of the article on the Aralia family in THE GARDEN of December 3, page 646, does well to emphasise the striking difference in character between Ivy in the juvenile stage and when adult. Undoubtedly its beauty is greater in the latter stage as it is less formal. It is, however, when it puts forth its particles of pale green flowers in the month of November that it puts on its best. A year ago I was making up some ladies' sprays for a bazaar out of simple materials. Among other things I chose some [illegible] of some Ivy growing on [illegible] in the hedge, where the leaves showed here and there the pale flowers just opening a few days. The beauty of the Ivy flowers was more strongly impressed upon me than ever this past November. I was taking a stroll by the winding Esk, near Musselburgh, when I was attracted by a goodly stretch of Ivy clambering over a north wall and displaying its thousands of blossoms in the November sunshine. It was an alluring sight. I could not resist the temptation to cull a bunch, which was duly placed in a vase and proved a joy with its quiet beauty of form and colour, for almost a fortnight.—CALEDONIA.

A RARE AND BEAUTIFUL COLCHICUM.

I AM sending you a photograph of Colchicum Decaisnei which is, without doubt, one of the most beautiful of the genus, indeed one of the two best species; the other being C. speciosum.

THE BEAUTIFUL COLCHICUM DECAISNEI IN THE CAMBRIDGE BOTANIC GARDEN.

Apart from its attractiveness it is necessary botanically, for Baxter, in his "Flora Oxoniensis," places it as a var. of C. autumnale, the latter having straight stems with punctiform stigmas and the flowers not developed the other year, but being C. latifolium, which has a more bulgar stem, similar bulb and much smaller pollen grains, and is not so exceptional; and C. Bivonianum, which is probably not in cultivation. The pollen grains of C. Decaisnei are similar to those of the autumnale group. They are 30 mics. long and 20 mics. wide; the latter is about one-half the former. The pollen of C. latifolium is 50 mics. long and 30 mics. wide; the pollen of C. Bivonianum is 40 mics. long and 30 mics. wide. The ribbing of C. Decaisnei is very close, one other species in cultivation, the ribs being 18 mics. high, while the four species are 16ins. long up to 5ins. wide. The leaves are longitudinally corrugated, this being quite a noticeable feature. Comparison might be made with C. speciosum, which is, probably, the next most handsome from the point of view of foliage. In C. speciosum the height is 16ins., the four leaves up to 13ins., and 2ins. to 4ins. wide. Another noticeable feature of the foliage here being that the leaves of C. Decaisnei remain quite green for some time after the leaves of C. speciosum have become quite dry, but, as C. speciosum is in a more exposed position, possibly that may have something to do with this. A native of Syria, it was introduced in 1892, but is still, I believe, rare; for some years it has been a conspicuous feature in the Botanic Garden, Cambridge, during October. It is much more floriferous than C. speciosum. Although the flowers are not so large, nor individually so fine in appearance, yet the bright rose colour is very attractive and pleasing.—F. C. PEARSON, *Botanic Garden, Cambridge.*

PROTECTING THE AGAPANTHUS.

THE Blue African Lily—Agapanthus umbellatus—is not hardy enough to stand the average winter of a great part of the United Kingdom. It is not exactly hardy, however, as all but the coldest districts that very slight protection is usually enough to preserve it from the severity of the greatest frosts we experience. Some think it necessary to lift plants which have been in the open ground in summer and to put them up to place in a heated structure during the winter, planting them out again in May. In light, well-drained places, however, they may be left in the ground during winter provided every precaution of covering should again be taken. The danger is that we may overdo the protection, so that the plants, instead of being as it is frequently in this country, starved, it is that season that the Agapanthus suffers most from the weather, severe frosts subjecting the plants [illegible] which have been protected but are then exposed by the removal of the sheltering material. Years ago one of my best friends possessed the late Mr. J. Jeffery, of St. Mary's Isle, Kirkcudbright, and he told me that he had found it best to allow several feet of the Agapanthus to be in the open position from which the plant I have I planted by a number of years, although my garden has been in a more exposed situation and is colder than St. Mary's Isle. The soil [illegible] where [illegible] to [illegible] should [illegible] and [illegible] protection. [illegible] [illegible] [illegible]

garden the first growths which pierced through the old foliage have been badly injured by severe weather, but they were soon followed by others, and the plants flowered as usual. Where the danger from frost is more than ordinarily great, some loose straw or other material of the same kind will be helpful, but the great point with this, as with all other methods of protection is that of not removing the protecting material too soon. Agapanthus umbellatus is so good in the open that its employment in this way is very desirable, and anything which will tend towards success is worth considering. A really big clump in the open ground is very find indeed.—S. ARNOTT.

THE HARDINESS OF FATSIA JAPONICA.

IN an article entitled "Notes from the Forest of Arden," in THE GARDEN of November 26, page 595, the writer says of the above plant, it "will just stand the winter outside here," and the writer of the article entitled "The Aralia Family from a Garden Standpoint," in THE GARDEN of December 3, page 606, says of it "it stands quite well in a sheltered corner anywhere in the Home Counties." As the result of personal observation I am convinced that Fatsia japonica, or Aralia Sieboldii, as it is often called by gardeners, is rather hardier than those references to it would suggest. It is a far cry from the Home Counties to Inverness, and yet in the Highland capital some forty-five years ago I saw a specimen which had come through the rigours of five or six Highland winters unscathed. Since coming to live in the Edinburgh district I have made the acquaintance of three thriving specimens of this shrub on the south side of the city, all in sheltered positions, of course. I was delighted, when visiting the owner of one of those during the first half of November, to find the plant, an 8ft. high specimen, in a group of shrubs displaying eight fine panicles of its greenish white flowers. My friend's son—an amateur photographer—promised to let me have a photograph to accompany these notes, but as he is rather slow in "delivering the goods" and as a good illustration of the plant in flower appeared in THE GARDEN of December 3, I am sending this without the photograph.—C. C.

THE JACKMANNI CLEMATISES.

I HAVE a plant of Clematis Nellie Moser growing in my garden on the top of a steep bank in heavy clay soil, and trained to an espalier trellis formed of rough branches of timber. It is, for the benefit of those who do not know it, a pale mauve variety with a red bar in the centre of the petals. The plant is now ten years old. Up to January, 1920, the young shoots in spring have been permitted to grow and flower in their own way, without an attempt being made to train them, the result being a matted tangle of shoots and flowers, similar to the way in which the Jackmanni type of Clematis is grown in most gardens. In January, 1920, I had all its shoots cut back to within 9ins. of the ground level, with the result that we had a splendid crop of young shoots to deal with in due course. Instead of permitting these young shoots to grow wild, each one was trained in the way it should go from start to finish of its growth, with the result that a large surface of the espalier on both sides was covered with shoots, and in due time with abundance of flowers. In January of this year (1921) the plant was not pruned at all, but all the young shoots were tied and trained this spring as they grew, with the result that the plant now covers a surface area of 10ft. by 7ft., and was carrying at the time it was photographed 1,500 fully expanded flowers, including its two sides—only one side is shown. I mention this to show how valuable a class of plants we have in the Jackmanni type of Clematis for the summer decoration of our gardens in many ways, provided a little trouble is taken in leading and training the young shoots during the time of growth. It is tedious business, I allow, but an hour or two once a week for a couple of months or so would suffice for dealing with heavy plants. For climbing over pergolas, verandahs, and such positions they are invaluable. So also are they when planted on lawns and trained over poles arranged tripod fashion. But they are not used in the decoration of the flower garden to the extent that I think they should be. When planted in beds and trained over a low trellis made of wood or wire, each bed planted with one distinct variety, only, the effect is rich and such that few other plants (hardy or tender) are capable of producing. If planted in rich soil and well attended to for watering, they will give a succession of blooms for ten to twelve weeks. The plants give little of no trouble winter or summer, save only the

CLEMATIS NELLIE MOSER, PROPERLY PRUNED AND TRAINED —WITH ITS "TRAINER."

training of the young shoots during the time of growth. The Clematis revels in rich, strong soil. Mine was provided with such to start in. But I have not the least doubt that the roots have long since left the boundaries of the border and are now well and deeply anchored in the heavy clay of the subsoil. Clematises are mostly grown in pots. The end of May is a good time to plant them out. They may also be grown from seed, but varieties cannot be depended on to come true from seed. —OWEN THOMAS.

FUNKIAS AS POT PLANTS.

THE Plantain Lilies are much oftener met with grown out of doors, where, under conditions of shade and moisture, they are seen to the best advantage, than as pot plants for indoor decoration in the early year. Yet I would prefer a claim for their inclusion under glass, where pleasing leafage is desired, for of all hardy plants which respond to gentle forcing, few are so easy to deal with as these. It is not suggested that the more robust forms as represented by F. Sieboldii be potted, but the variegated forms like F. ovata marginata, a gr... leaved sort margined with pure white, or F. o... undulata, with pale green leaves bordered white... used. F. Fortunei foliis variegatis, marked wit... white, is also very pretty in its young stage. A... genial temperature, after small clumps have bee... potted and kept in cold frames for some weeks, i... sufficient to help them to unfold their leaves, provided they are given an ample supply of moisture. For the cold greenhouse, too, in the early year, where not infrequently there is a dearth of foliage plants, these very hardy plants might be tried, as they never disappoint.—W. L. L.

WHY DO I GARDEN?

WELL! Not, I hope, for the unflattering reason suggested by the Rev. "J. J." in the case of the spender of hundreds of pounds (I have only a few hundreds of shillings to spare for my hobby). I *think* I garden simply because *I cannot help it*. It is bred in the bone of me—descendant of the old French silk-weavers, who turned deserts into gardens wherever they went in exile. Anyway, I began to garden "on my own" at the age of four, having a "garden" about the size of a large tea-tray, and very soon took charge of my sister's also and put my best plants in it (to keep her out of disgrace with mother). I loved all garden work in my youth—except washing hundreds of flower pots for the "bedding plants," which *I hated*, fighting my forlorn battle against them, all unknowing of "W. R."! who was doing the same at about the same time; and I also had to clear the Rose trees from aphis and maggots—Eugh! Sometimes I got a bit tired of "pricking out" little seedlings for the gardener and tying up Lettuces—back-aching business! "Self-folding Lettuces" came too late in life for me. Oh! how I hated Strawberries in June and July—I was a slave to them for some twenty years at Surbiton. It was I who, in school days, before I went to school each morning, had to gather them for the late breakfast of the others, and pack a basket of the best for father to take to town, and when I came home, after eight hours cooped up with forty other girls in a hot, stuffy schoolroom, was frequently greeted with "make haste and wash your inky fingers and put on a clean apron, and come and pick the Strawberries for jam." I detest sweet, sticky Strawberry jam to this day. But, apart from these "crumpled Rose leaves" gardening has been an enduring and ever-increasing delight. Though now, in life's Saturday afternoon, weary with the long week's work, I am too tired to work actively and can only direct and look on, letting others do what I would fain do myself. Happy I deem the lot of professional gardeners whose paid "work" is the recreation of us "Amateurs." I garden because I find in this an enduring and ever-delightful interest, and a constant looking forward—which gives a zest to life. For, of gardeners, more than other mortals, it is true, "Hope springs eternal in the human breast; man never *is*, but always *to be* blest."—ANNE AMATEUR.

GARDENING OF THE WEEK

FOR SOUTHERN GARDENS.

The Flower Garden.

Grey Foliage Plants possess their own distinct beauty, and although at all times forming a very pleasing feature when carefully associated with other plants, it is during the dull winter days that we turn to them with warmer feelings of interest and appreciation. The following are all hardy and may be planted at any time in open weather during autumn and winter: Lavender, Santolina (the Cotton Lavender), Nepeta Mussini, Antennaria tomentosa, Stachys lanata and many species of Artemisia; we may add to these the Pink family and Cerastium tomentosum, but great care should be taken to see that the latter is not planted too near choicer and weaker-growing brethren, or it will soon smother them.

Gravel Paths.—A neat, well kept path adds considerably to the appearance of the garden, and where, through alterations, leafage clearing, or other work, pathways have become somewhat loose on the surface, the first opportunity which offers, preferably after rain, a good rolling should be given them. Any verges not yet attended to should also be looked to for they will now last in good condition for many weeks.

The Kitchen Garden.

General Work.—The chief work now is in pushing ahead as rapidly as possible with the trenching or digging of vacant plots of ground. Use cold, dry mornings to get all barrowing and carting done before any damage can be caused to pathways which, though frozen, may thaw later in the day.

Plants Under Glass.

Preparations.—Where it is not convenient to keep stored under cover at all times a quantity of loam, leaf-soil, sand, &c., ready for use when required, an effort must be made now to get a goodly amount of such materials under cover away from frost, snow and wet, so that when required early in the New Year less time will be spent to get it in suitable potting condition. At the same time heaps of old potting soils, &c., which may have accumulated should be sifted, for all such then becomes a most suitable medium for many things, including seeds and many bedding plants.

Pots in sizes which it is known will soon be required should, if a little extra labour is available on wet days, be washed, crocked and all placed ready in their respective sizes so that the minimum of delay is caused when the time comes for using them.

Boxes.—Where these are greatly in demand for the sowing of seeds and pricking out, it should be seen that any necessary repairs or additions are made now and all placed in readiness for drawing upon.

Stakes, too, which may have become all muddled up should be sorted out in their respective lengths and sizes and tied in separate bundles.

Fruit Under Glass.

Late Grapes.—Unless there are sound reasons for not doing so, these should now be cut and placed in bottles in the warmest end of the fruit room, unless there is a storeroom kept purposely for Grapes. The bottles should be thoroughly cleansed before being filled with clear water, into which has been placed a small piece or two of clean charcoal which will help in maintaining the water sweet and fresh. Maintain the temperature of the Grape room in as even a state as possible, and this may be from 46° to 52° according to outside climatic conditions. Light should be excluded and dampness guarded against and a strict watch kept for decaying berries in the middle of the bunches. When the Grapes are all cleared from the rods the remainder of the growths should be shortened to four or five buds and finally pruned in about three weeks' time. Ascertain at once the state of the border and, if dry, soak thoroughly with diluted manure water, for late Vines generally get a little exhausted before they are relieved of their crops.

Cleaning of all fruit houses should be completed as soon as possible, following on as opportunity offers with the pruning and tying of later Peach and Fig trees.

H. TURNER.
(Gardener to the Duke of Northumberland.)
Alburv Park Gardens, Guildford

FOR NORTHERN GARDENS.

The Kitchen Garden.

Compost Heaps.—The season's accumulations should be turned over at regular intervals, choosing a time when other and more important work cannot be done. A sprinkling of hot lime through the heap will be an advantage. Older heaps, which are now well decayed and in a nice friable condition, should be wheeled on to vacant plots and borders while the ground is firm. The Brassica family particularly revels in ground which has been treated from a well managed compost heap, the compost being generally rich in humus.

Digging and Trenching.—Push on with this work, digging the heavier portions first, so that the soil may get the full benefit from exposure to the weather. Although one is keen to get through with this work as soon as possible, it is inadvisable to dig while the ground is in a muddy condition.

Jerusalem Artichokes should now be lifted and stored, clamping them in a similar manner to Potatoes. If it is intended to grow a different crop on the site next season, added care must be taken in gathering the roots, as ground-keepers are most troublesome and difficult to eradicate from among other crops. The Jerusalem Artichoke, or Sunroot, to give it its new name, requires a lengthy season of growth, so preparations ought to be made for planting early. Give the ground a liberal manuring, digging deeply and breaking up the soil thoroughly.

Plants Under Glass.

The Conservatory.—Late Chrysanthemums are still making a bright display; while, among dwarf-growing plants, Primulas, Lorraine Begonias and early batches of Cinerarias add colour and variety to the various groups. Ventilate the structure freely during fine weather, keeping up a genial warmth so that damp is kept in check.

Plants in Heated Pits, such as cut-back Pelargoniums, now that they have started into growth again, should be vaporised occasionally as a precautionary measure. Water sparingly, but care must be taken that the soil does not at any time become too dry, otherwise attacks from aphis are certain.

Schizanthus and Clarkias in cool quarters are growing freely now so must be advanced to larger sized pots as becomes necessary. Never at any time allow the plants to become pot-bound during their period of growth, as this inevitably causes hardness in the stem, with resultant check to their vigour. Keep the plants growing as near to the glass as possible, so that sturdy yet vigorous growth may be ensured.

Canterbury Bells growing in pots with a view to the future embellishment of the conservatory should also be potted on now, but should still be kept growing on in the cold frame.

Camellias.—Although in the background for many years, these fine old-fashioned shrubs deserve more attention than is generally accorded them. Well grown plants of the red variety make a fine splash of colour in the conservatory, while the waxen purity of the white sort always gives pleasure. Where the plants are thickly studded with flower buds, these should be reduced to a reasonable number, and thus allow for the proper development of the blooms. Plants in tubs or pots should be assisted with judicious waterings of artificial manures; they also enjoy copious supplies of soot water. This fertiliser encourages that dark green, healthy foliage so essential to the well-being of the Camellia.

The Flower Garden.

Lily of the Valley.—New beds may yet be formed of these dainty plants. Choose a dry day for the work, and as the bed is likely to remain undisturbed for a number of years, a little extra attention in its preparation will be well repaid. The soil should be freely manured, with a liberal quantity of leaf-mould added. A partially shaded position should be chosen. Plant single crowns of a strong-growing variety at 6ins. apart, pressing the soil firmly round the roots, and finish with a top-dressing of fine leaf-mould. Fortin's variety is one that can be commended, being of robust habit and throwing flowers of fine quality.

JAMES McGRAN.
(Gardener to Sir Henry H. Houldsworth, Bart.),
Coodham, Kilmarnock

The R.H.S. Classification of Garden Irises

Special Iris meeting in June, 1922.

THE Royal Horticultural Society now has in the press the outline of the classification of garden Bearded Irises which has been drawn up by a committee of experts. The classification is intended entirely for garden purposes and is based primarily on colour, but will also allow of additional details with regard to height and time of flowering. On Wednesday and Thursday, June 7 and 8, 1922, a Special Iris Meeting will be held at Vincent Square, when it is hoped to be able to arrange in order all the varieties given as specimens in the classification. At this meeting there will be special competitions for Iris seedlings, for which cups have been generously promised to the Society by Messrs. R. W. Wallace and Co. of Tunbridge Wells, Messrs. Whitelegg and Co. of Chislehurst and Mr. Amos Perry of Enfield. In conjunction with this meeting there will be held an informal conference at which the classification will be discussed and at which it is hoped to have the collaboration of French and American growers. The Société Nationale d'Horticulture is also arranging a series of meetings in Paris, and it is hoped that English experts will be able to attend the chief meeting on May 27, when the French scheme for classification is to be discussed. It is hoped that by cordial collaboration between out Allies and ourselves unanimity will be reached and a classification drawn up the result of which will prove acceptable to growers in all countries.

W. R. DYKES, *Secretary.*

OBITUARY

M. FOUKONBA.

ALTHOUGH not widely known in English horticultural circles, Mr. Foukonba-Hayato, head-gardener to the Emperor of Japan, was a *persona grata* among the French. During, and for some time preceding, the great International and Universal Exhibition of Paris in 1900 Mr. Foukonba and some Japanese gardeners spent many months in the neighbourhood of Paris getting ready for the gardens in the Japanese section there and in maintaining them. One remembers quite well the visit of a large number of English and French members of the French Chrysanthemum Society to the Japanese Section when the Chrysanthemums were in bloom there in the autumn of 1900, and the courteous reception of the visitors by Mr. Foukonba and his assistant, Mr. Itchi Kawa. The chief idea in the minds of the visitors was to obtain authoritative information as to the existence of a blue Chrysanthemum in Japan—a question then much debated.

Mr. Foukonba kept in constant touch with his European friends, and only a year ago sent some seed and an article on the "Mountain Chrysanthemum" to the Editor of *Le Chrysanthème.* He was elected a corresponding member of the National Horticultural Society of France and an honorary life member of the French Horticultural Society of London. He was decorated by the President of the French Republic with the Cross of Officer of the Legion of Honour. The announcement of his death, which occurred quite recently, was communicated by his son, who does not give us the date.

C. H. P.

A Beautiful Erigeron.—Charming as is the effect of the silvery lavenders, greys and pinks, of the taller, more robust Erigerons, that are grown in the herbaceous borders Erigeron muscronatus is no less attractive on a sunny shelf in the rock garden where—from May to August—it is smothered with an uninterrupted succession of dainty little pink and white flowers. A native of Mexico, it is of prostrate habit, scarcely raising itself above the earth, the flowers being daisy-like in form with a bright yellow eye. A great lover of sunshine, it does best when planted on a deep but narrow ledge, where the roots can push deeply, especially if there is a large boulder behind to shelter it from cold winds. A sandy loam is the most suitable soil, and division, which is best done in early spring when growth has just started, is the simplest mode of propagation.

A Useful Winter-flowering Greenhouse Plant.—Though seldom seen, Calceolaria violacea is a most interesting little winter-flowering species of the great Calceolaria family. The habit is very light and graceful and needs careful but unobtrusive staking, for, though the older stems become tough and wiry with age, the younger shoots that carry the flowers are very easily snapped. The plants can be grown on for several seasons by giving an occasional shift as required into larger pots, using a compost of fibrous yellow loam, old manure and sand. While they enjoy a firm soil, it is a mistake to make this too hard, as it does not then absorb water readily and the centre of the ball of earth is apt to become dust dry. Propagation is effected by cuttings after flowering, and these root readily in a cool temperature if inserted in a sandy soil and kept rather close until growing again. During summer the plants do well in a shaded cold frame, especially if stood on an ash bottom, for the one enemy that is most likely to conduce to attack by green fly or red spider is a dry atmosphere. Do not overpot, but use pots in accordance with the vigour of the specimen; and when replacing in the greenhouse, space out well so that air and light can circulate freely between them. The habit is dwarf and compact, and the flowers profusely borne in fine heads of pale violet, spotted with purple.

Decorative Tacsonias.—One of the most beautiful climbers for the greenhouse is the old-fashioned Tacsonia Van Volxemii. Its beautiful pendulous blossoms, hanging from the vine by a slender stalk resembling a long piece of string, are like huge crimson stars against the background of bright green foliage above. Hanging thus from the tall roof of the conservatory, they make a very effective picture, and they are equally charming when draped on the sides and roof of a small greenhouse; indeed, Tacsonias are well suited to all glass structures that can afford the necessary—and moderate—amount of heat. This and other Tacsonias may be easily raised from seeds, germinated in a gentle heat; and for some time after should be given pot culture in the way of shifts to larger sizes as the pots become full of roots. When the time arrives for training on to the greenhouse roof, however, the pot accommodation becomes useless, and the plants must be given a border to themselves. The size of this border must be limited or extended to correspond with the amount of space the plant has to cover; otherwise a bed of soil too large will give the owner of a small greenhouse considerable difficulty in restraining the rampant growth that will ensue, while a restricted root-run will woefully disappoint the possessor of much roof-space that he wishes to cover with this beautiful climber. The plant requires ample drainage conditions at all times, and the border it is to occupy permanently must be well drained and open. The best compost for this purpose is a good sweet loam, with enough sand to keep it well open. Under these conditions Tacsonias will flower almost continuously once they become established, and will produce their Passion Flower-like blossoms in great profusion. Treatment during growth and flowering consists in giving ample supplies of water during the hot summer months, the whole plant being thoroughly syringed frequently. During winter the growths should be cut back freely, and those shoots which hang from the roof should be shortened to within one or two eyes of the base. In the spring the border should receive a top-dressing of good fresh soil.

The Red Cross.—Messrs. Abdulla and Co., the cigarette specialists of 173, New Bond Street, W.1., are issuing an almanac for 1922, which is beautifully got up and handsomely illustrated in colour. The almanac is, as in past years, priced at 1s. 6d., and the whole of the proceeds will be devoted to the British Red Cross Society. Messrs. Abdulla themselves bear the cost of production.

Le Chrysantheme.—The November issue of this useful and interesting publication is just to hand and from it we glean that, with the addition of thirty-four new members, the French Chrysanthemum Society now numbers 755, inclusive of sixty-three affiliated societies. Among the items of interest are the report of the Congress at Le Mans, a report of the show there, a brief history of the Society, a detailed account of the Floral Committee meetings and certificates of merit awarded to new seedlings. The meeting held for the purpose of celebrating M. Ph. Rivoire's appointment as Knight of the Legion of Honour, a very enthusiastic gathering, is also the subject of a special article. It appears that M. Alfd. Chantrier, a seedling raiser of thirty-four years standing, is giving up the work. He was never much known in this country, his efforts being eclipsed by his more fortunate compatriots, De Reydellet, Délaux, Lacroix, Calvat, etc. He has, however, kept a register of all the novelties raised by him, amounting to 592, and this register with all its valuable details he has now presented to the library of the Society.

ANSWERS TO CORRESPONDENTS

QUESTIONS AND ANSWERS.—*All communications should be clearly and concisely written on one side of the paper only, and addressed to the* EDITOR *of* THE GARDEN, *20, Tavistock Street, Covent Garden, London, W.C.2. When more than one query is sent, each should be on a separate piece of paper. Plants for naming should be clearly numbered and securely packed in damp grass or moss, not cotton-wool, and flowering shoots, where possible, should be sent. It is useless to send small scraps that are not characteristic of the plant.*

FLOWER GARDEN.

ASTERS DISEASED (An Essex Reader).—Our correspondent will find that spraying the Asters with a solution of 1 oz. sulphide of potassium (liver of sulphur) in 3 gallons of water an effective method of checking Aster mildew.

VARIOUS PLANTS ATTACKED (An Essex Reader).—We fear the roots of the plants sent are attacked by the fungus Ruselinia, which is the cause of the death of roots very frequently. If any of the plants die, the best thing to do will be to dig them out completely and burn them, and avoid spreading the soil over other parts of the garden to carry the mycelium about. Then dig a trench around the portion of soil infected and fill it with quicklime allowing some time to elapse before replanting.

ROCKERY PLANT (M. F. H.).—Your plant is Ceratostigma plumbaginoides, sometimes called Plumbago Larpentæ. It is readily propagated by cuttings of this season's growth, taken with a heel of the old wood, at the present time, inserted moderately closely in fairly light, gritty compost and stood in a cold frame; or, in summer, cuttings of the half-ripened wood will root with a little bottom-heat.

TREES AND SHRUBS.

TO DESTROY SMALL TREE (J. K., Leigh).—If a hole is bored with a ½in. augur in a downward direction in the trunk near the ground and about 1oz. of saltpetre (nitrate of potash) is put in, the tree will die during the coming summer. It will break into leaf at the usual time, but the leaves will fall very early. The hole should be plugged to prevent rain from entering.

LILAC HEDGE UNSATISFACTORY (E. H., Great Warley).—After so many years it is quite probable that, unless the hedge has been top-dressed from time to time, one cause of its unsatisfactory condition is semi-starvation. If the surface soil were lightly forked over and a top-dressing composed of good loam, well rotted farmyard manure and leaf-mould were applied, its condition would be considerably improved. With regard to the thinness of the hedge at the bottom this, as our correspondent suggests, could best be advised upon by an expert on the spot. Hedges of such flowering shrubs as Lilacs and Rhododendrons, unless especially well cared for, usually become thin as time goes on. The generally effective measures are either to cut the hedge plants down fairly low or, when practicable, to plant young specimens in the gaps.

AZALEAS NOT FLOWERING SATISFACTORILY (Felsted).—It is a fairly common experience to find that hardy Azaleas do not flower nearly so well the second year as when first planted. But, if properly treated, they should be quite satisfactory afterwards. Even though there is lime in the soil surrounding the Azalea bed it would scarcely be washed by rains into the bed in sufficient quantity to be harmful. If strong doubts and fears are entertained in this respect, we suggest that the soil on the higher side of the bed be tested for lime, and then if lime be found to be in unusually large proportion the measures suggested by our correspondent may be taken, viz., to remove the upper soil and lay down peat. A simple test for lime is to place a small quantity of the soil in a tumbler and pour on it about a wineglassful of spirits of salt (muriatic acid) and watch events. If the liquid effervesces freely there is a considerable proportion of lime in the soil, but should the bubbling and fizzing be weak it may be taken that the proportion of lime is negligible.

THE GREENHOUSE.

GREENHOUSE PLANTS UNSATISFACTORY (C. M. D., Pulboro'.).—There has been something amiss with either the watering or the ventilation of the greenhouse. The marks on the leaves are due not to insect attack or to fungi, but to the atmosphere being too moist, and they indicate the need for care in this direction.

FRUIT GARDEN.

GRAPES TO GROW WITHOUT FIRE HEAT (Wight).—It is not difficult to grow and ripen perfectly many excellent varieties of Grapes without the aid of fire heat. Of such varieties, however, Cannon Hall would certainly not be one. There are two ways in which our correspondent can convert his present Muscat vinery into a vinery of some other sort. One way would be by inarching the new desired variety on to the stock of the old Muscats at the end of March or early in April next year. By this means it would be possible for new canes of the new variety to be grown next summer strong enough to produce a few bunches of Grapes the following year. There is no other way in which the vinery can be filled with another variety of Vine so quickly; and, moreover, there would be no question of expensive new borders, etc., as the new Vines would be growing on the stems and roots of the old Muscats. If it is desired to have a golden-coloured Grape instead of the Muscat, our correspondent cannot do better, we think, than by substituting Buckland Sweetwater for it. It is a delicious, golden, handsome Grape with large berries of very much the same character as the Hamburgh, and ripens about the same time, but the flavour, of course, is different and not quite so rich. If our correspondent does not mind a black Grape, Madresfield Court Muscat would be the best to have, distinctly of the richest Muscat flavour, easy to grow and that in fairly cool temperature. The second way of converting the vinery and filling with a new sort would be by making a new border and planting new Vines, a more expensive process and entailing a longer time waiting for a crop.

MISCELLANEOUS.

THE USE OF BURNT POULTRY MANURE (Mrs. K., Salisbury).—The burnt poultry manure may be used as our correspondent suggests, viz., for herbaceous borders of gardens generally, and it will prove of value for all crops, being rich both in phosphates and potash. Too much should not be used on any one part. It would be even more valuable if it were kept dry and not burnt before use. Its use might cause a certain amount of hoeing, but that is necessary in any case, and one would have the value of the nitrogen, the most expensive part of manure, which is now being lost. So treated the manure would be worth eight times farmyard or stable manure.

NAMES OF PLANTS (Colonel S., Perth).—1, Euonymus europæus, "Spindle Tree"; 2, E. e. var. fructu albo.

CATALOGUES RECEIVED.

Dobbie and Co., Limited, Edinburgh.—General Seed List.
Stuart Low and Co., Bush Hill Park, Enfield, Middlesex.—Carnations.
T. Smith, Daisy Hill Nursery, Newry.—Trees and Shrubs, Climbing Plants and Roses.
H. N. Ellison, 5 and 7, Bull Street, West Bromwich.—Bulbs, Ferns and Cacti.
Wood and Ingram, Huntingdon.—Trees, Shrubs, Roses and Fruits.

A BORDER OF ANNUALS

Being "Somers'" reply to a lady friend in quest of information.

YOU do not seem to be quite sure about the length of your border, which, you say, is 50ft. or 60ft. However, I do not particularly mind about the length, but I hope you are fairly exact as to the breadth, which you put at 10ft., the breadth being a point of importance in advising you how to plant. The border faces the south-west, which is a good aspect. In front of the border there runs a newly laid gravel path, the width of which you do not mention, but which, at a guess, I will assume to be 5ft. Immediately behind the border lies the vegetable quarter. I do not wish to say anything disrespectful about vegetables or vegetable quarters. On the contrary, I find, like most people, I suppose, something comforting and satisfying in a well kept and flourishing Potato patch, especially when it is in full Solanum bloom. But a Potato or Cabbage patch is not, at least in the popular view, the best possible background for a flower border. Besides being a trifle commonplace and utilitarian, it is too flat; and, therefore, the first thing we must decide is a boundary line for your border more suitable than a plot of vegetables. What you require as a background for your taller and bolder flowers is a sufficiently high, vertical wall of living green. The ideal background, no doubt, would be a 10ft. high Yew or Holly hedge, though such a hedge, even if you had it, would not be of unmixed advantage to your flowers. Anyhow, as you cannot grow a Yew hedge in three months, we must think of something else. At this point, however, I remind myself that you have told me nothing about the quality of your soil, whether it is rich or poor, light or heavy. Had the soil been either extremely light or extremely heavy, you would probably have mentioned the fact, and, therefore, I will suppose it to be of a medium consistency, not light enough to become easily parched, or heavy enough to become waterlogged. If the soil has been hitherto unworked and uncropped, it will probably require, for most annuals, little, if any, enriching. But if there is reason to think that the soil is not in sufficiently good heart, I am afraid there is nothing for it but to make your way to the owner of the nearest cow-house, and to beg from him a load of his most ancient farmyard compost. It will require courage, I dare say; but only bring to bear your full battery of blandishments (as I remember them) and there is no cow-owner born of woman but will readily make you free of his mellowest manure heap. Even I, who am writing this, plain as I am, can conjure out of a neighbour farmer loads of excellent material by the simple flattery of 7s. 6d. a load. Having, then, obtained a sufficiency of the right stuff—an old deposit, 1920 if possible—work it well into your border, but not too deeply, taking care to leave the surface as far as possible in a condition for the sowing of seed.

To return now to the matter of a back boundary line (which, we have agreed, must be a wall of green some 9ft. or 10ft. high), the first thing I should do, if the border were mine, would be to procure from some hedge-cutter a dozen faggots of twiggy Hazel sticks, some 12ft. long or so; and, having procured them, I should sink them in the ground to a depth of 12ins. or 18ins. along the back edge of the border. The more twiggy the hedge is when so constructed the better—but it must be strong enough to resist the force of violent winds; and, therefore, it might be well to run a strand of binder twine in and out among the sticks, top and bottom, along the whole length of the hedge. And how afterwards to clothe these dry bones? Long as is the list of hardy annuals, it so happens that there are among them few climbers that will answer our purpose; in fact, I can think of only four: (1) Sweet Peas, (2) Climbing Nasturtiums, (3) Canary Creeper, (4) Japanese Hop. Of No. 4 I have no first-hand experience, and, therefore, I will leave it alone, though I have no doubt it is a desirable plant in its way. Sweet Peas you must, of course, have in any case, and you may as well grow them on your back boundary-line as anywhere else. If you should decide to grow your Sweet Peas in colours, the following six varieties would I think prove satisfactory: Constance Hinton (white), Doris (cerise), Cecily (pink), Majestic Cream (cream), President (crimson) and Warrior (maroon). But, in the circumstances, as you are not making a special feature of Sweet Peas, it would be wiser, perhaps, to procure some mixed seed of Spencer Peas from a good firm. Such a packet would give you a sufficiency of flowers for cutting and in a great variety of colour. You might, of course, plant the whole line with Sweet Peas, and, if they did well, they would make a telling feature at the back of your border. But I think I should advise you rather to plant them in clumps, so as to form Sweet Pea pillars in the hedge at such distance one from another as may seem desirable; and these should be connected—pillar to pillar—by curtain-walls of Climbing Nasturtium (Nasturtium so called but really Tropæolum). I hesitate to allow myself to praise the Climbing Nasturtium (Tropæolum majus) in such terms and at such length as I could wish because I am afraid I should perhaps lose the due sense of proportion. It is, no doubt, a vulgar flower, but vulgar only in the sense that it is a common flower; and it is common because of its virtues, because it is so easily satisfied and propagates itself so readily from one season to another. If you regard it with an eye unprejudiced by its commonness, the Nasturtium has all the attractions desirable in a flower of its kind: an exquisitely beautiful shield-shaped leaf resembling that of a miniature Water Lily and, therefore, admirably adapted for floating; a flower of good size and of a quaint and charming shape; a considerable range of rich colour—crimson, scarlet, brown, maroon, primrose, orange and bronze—self or variously mixed; a delightful fragrance equal in freshness to that of any flower in the garden, and with a certain pungency besides which gives it a character all its own; immunity, as far as I know, from diseases and pests; a habit of growth which is the perfection of lush luxuriance and grace; and (to me not the least of its attractions) an exceptionally fine faculty for looking after itself. Of late years a good deal has been done to improve the Nasturtium—both the majus and the minus forms—by extending the range of colour and by inducing variegations of its foliage—ivory-white and yellow streakings and splashings on the green ground of the leaf—which variegations, though they may not always be approved, are certainly striking. For my own part, I do not, generally speaking, care much for variegation in the foliage of plants. It gives variety, of course, but one cannot help feeling that in many cases the variegation is a symptom of defective vigour. I confess, however, that I have not this feeling in respect of these variegated Nasturtiums. I like them, and I cannot help thinking that a few plants of the variegated kinds introduced here and there in your hedge would light it up in a way you would probably approve. Then there is the Canary Creeper (Tropæolum aduncum), the well known congener of the Nasturtium and amenable to the same treatment, except that it is perhaps a little more tender. I should not be in a hurry to plant either the Nasturtium or the Canary Creeper. If you drop the seeds in their places the last week in April it will be early enough; whereas your Sweet Peas may be sown in March. I have said so much in praise of the Nasturtium that I [illegible] thing I know to its disadvantage. It succumb[s] to the first frost, and then [illegible]

AN ANNUAL BORDER IN THE KITCHEN GARDEN.

to pulp as early as September—that is, with me it may, though it would probably not be liable to such disaster in the seaside climate of your border.

So much for the wall of green that is to be the background to your border. Now I should like to suggest how you might best treat the front of your border—the line of rough stones, I mean, which forms the boundary between border and walk, leaving the middle distance to be dealt with later on. For my own part, I should have no hard and fast line dividing walk from border, and, therefore, I should so arrange the planting among and around these stones that certain flowers might come out on to the walk if they chose—that is, of course, in moderation, for everything, plant or body, must be kept within reasonable bounds. Much will depend on the condition of your gravel. If the gravel at the edge of the walk next the border is of finely triturated kind, it may be precisely the thing for certain pretty path plants of diminutive size, such as the Violet Cress (Ionopsidium acaule), or the dwarf forms of Sweet Alyssum, little outcrops of which on the edge of the walk would be just the thing to redeem your border from a too rigid straightness of line. That zone of your border which consists of the stone edging with the foot of ground behind it and in front of it, if you plant it with suitable things, will very possibly not be what is called "showy" (detestable word !), but it will be full of delightful interest. It may be that no plant in it will leap to the eye like a Greigii Tulip or a Crampel Geranium, but they may all be such as the eye will search out for their quiet beauty, or the nose for their sweet perfume. And yet not one of the plants in question need be a biennial or a perennial—they need only be annuals, some of them possibly as little known as they are beautiful. Among the readers of THE GARDEN how many, I wonder, know and grow that exquisite little Poppywort from the Pacific slope, Platystemon californicus, with its rough greyish foliage and its cupful of stamens? I cannot say. More than I suppose, perhaps. But this I know, that of those who have seen it and admired it in my own garden I cannot remember any one person who recognised it or knew its name. Then there is Schizopetalon Walkeri. Sometimes, in walking along the garden path of an evening in July or August after sunset, you may become aware of something sweet in the air as of a breath from Araby the Blest, and you may ask of a companion, not necessarily unversed in flowers, whether he can see or name the flower that sheds the perfume. Sweet Rocket? No. Evening Primrose? No. Nicotiana affinis? No. Night-scented Stock? No, it is none of these, it is a small and insignificant Crucifer, which, being small and insignificant, has been named by its godfather botanist (Walker himself, possibly), with the unconscious humour of the fraternity, Schizopetalon Walkeri, which is as much as to say "The split-petal of Mr. Walker." The flower, small and inconspicuous, is a cross of prettily fringed ivory-white petals; but, small as it is, it saturates the air with a fragrance as of warm spice. You really must have a patch of Schizopetalon Walkeri. Set it in a sheltered valley between the stones, and give it some good light soil. But do not sow it before May Day; and, when you do sow it, let it be thinly, for it does not easily submit to transplanting.

I cannot, of course, mention all the annuals ranging in height from 6ins. to 12ins. which you might grow with advantage in the edging zone of your border, but I will enumerate a few. I think I remember that you used specially to love blue flowers, and that you liked to have them if possible near to silvery foliage. I am afraid I cannot name many hardy annuals with silvery foliage. I can think of only one, the annual Navelwort, Omphalodes linifolia, and it is not so very silvery. But, as for blue flowers, some of our most exquisitely blue flowers—blue as Gentiana verna—are among the hardy annuals, for which I am now suggesting a place in the front of your border. First of all there is the little Californian "glade-lover," Nemophila insignis—blue as the sky at its bluest, except in the centre, where it is of a cloudy white. Slugs love it (and so do cats, they say, though I have not myself observed this), otherwise it is among the most easily grown of annuals and one of the hardiest; indeed, it succeeds much the best when it is sown in autumn and is wintered in the open. Then there are other pretty Nemophilas besides insignis: one, a white, with a central disc of brown, and called, I think, discoidalis, others spotted or splashed with purple or brown on the greyish-white ground of the petal—all neat and pretty; but insignis is easily queen of the tribe. Another dwarf annual of a rich blue—the Oxford shade, whereas Nemophila is not far from the Cambridge blue—is Phacelia campanularia, the blooms of which are bell-shaped, as the specific name indicates, though the flower is not a Campanula. This Phacelia is, perhaps, not quite so easy to grow as the Nemophila, that, at least, is my experience; nor does it seed so profusely. But it cannot be called a difficult plant, if reasonable trouble is taken with it, and it is a lovely thing, an ideal plant for the shelter of a stone or boulder. There are, I believe, some dozen species of Phacelia, but nothing else, so far as I know, to come near campanularia. Eutoca viscida, now classed with the Phacelias, is of a beautiful dark blue, and altogether a handsome annual well worth growing, but it is larger and coarser in appearance than the other. Whitlavia is also a Phacelia, with clusters of bellflowers of a rosy purple, each resembling the finger of a Foxglove. Kaulfussia is another pretty blue annual worth growing, and so is the blue Woodruff (Asperula azurea). A low-growing annual which gives a maximum of effect for a minimum of trouble is Saponaria calabrica, each plant, once suitably planted, growing into a pincushion, or rather a sofa-cushion, of luxuriant green, plentifully studded with pretty pink stars—or white, if you care to have the albino variety, though I like the pink best myself, and like it as pink as I can get it, for there are shades.

Of these bijou annuals, suitable for the edging zone of a border such as yours, some of which are so easy to grow that they become almost weeds, I have mentioned a few which seem to me desirable, though I have omitted others which may seem to you even more desirable, if you know them; for instance, Silene pendula, Gilia bicolor, Sanvitalia procumbens, and that pretty Mexican Composite, Sphenogyne speciosa, with its cheerful circle of buff or lemon petals and brown centre that looks almost black. Then among your stones and gravel, by way of a yellow, I do not know that you can have anything better than Limnanthes Douglasii—at least, you can have nothing easier to grow—and it makes a great display of white and yellow while it lasts. *While it lasts*—there you have the fly in the ointment. It is inherent in the very conditions of their life that annuals should not be lasting. They burst into splendour, like butterflies, not to please you or me or even Mr. Lloyd George, but solely for the perpetuation of their species, and their first thought, therefore, is to run to seed. Sweet Peas, Mignonette, Antirrhinums (which, though not exactly annuals, are little better) are no sooner out than they go off into pods and capsules, a most exhausting process. With annuals, therefore, you must make up your mind for a "short life and a merry"—*unless* you have recourse to successive sowings. Only in this way, so far as I know, can you hope for a summer-long season of bloom. Therefore, in the first sowing of any variety it is well to reserve unsown an area as large, or twice as large as that sown, for subsequent sowings of the same variety, at intervals of three weeks or a month. Also the period of flowering may be considerably lengthened by thin sowing; or perhaps I should say that it will inevitably be much shortened by thick sowing and subsequent overcrowding. I really must insist, with all the force and solemnity I can muster, on the strict and invariable observance of this rule of thin sowing, and I can do so, if not with a good grace, at least with some authority, because I have myself so frequently observed the rule in the breach, and suffered the consequences.

Now, my dear friend, you see what you have brought on yourself by so rashly appealing to me in your difficulties—this lengthy document, and the annuals that must form the bulk and staple of your border not even touched upon. Perhaps, however, that may be done at another time.

SOMERS.

The Allwoodii Novelties

A GREAT advance has been made in the evolution of this popular flower, and for the coming season no fewer than ten new varieties have been placed on the market, almost doubling the number already in commerce. Many of the

THE PURE WHITE, WITH RED MAROON LACING, ALLWOODII BETTY.

new sorts are self coloured, which should greatly increase their popularity as self colours, which are generally favoured for all decorative flowers. All the shades are quite new.